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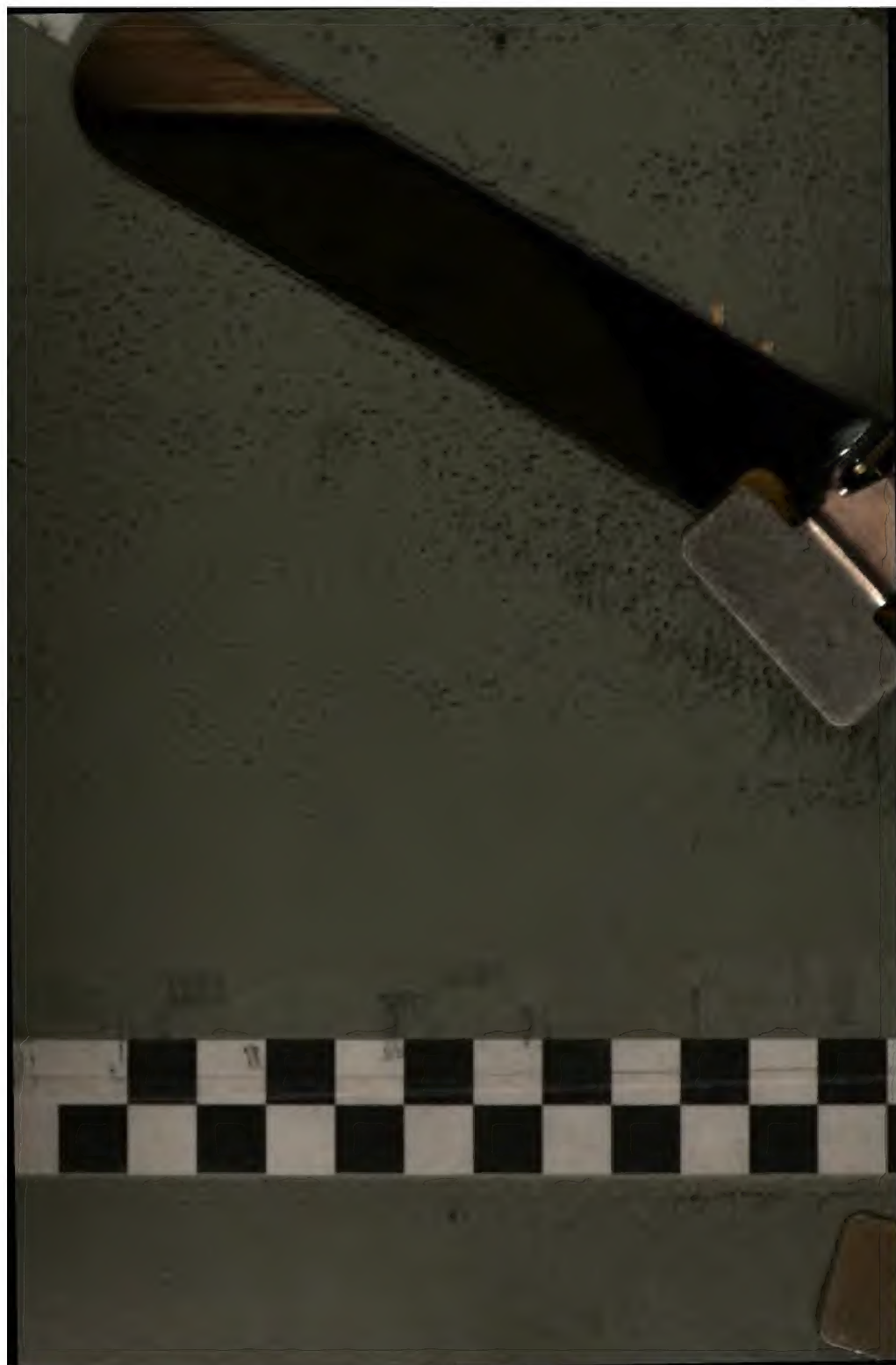
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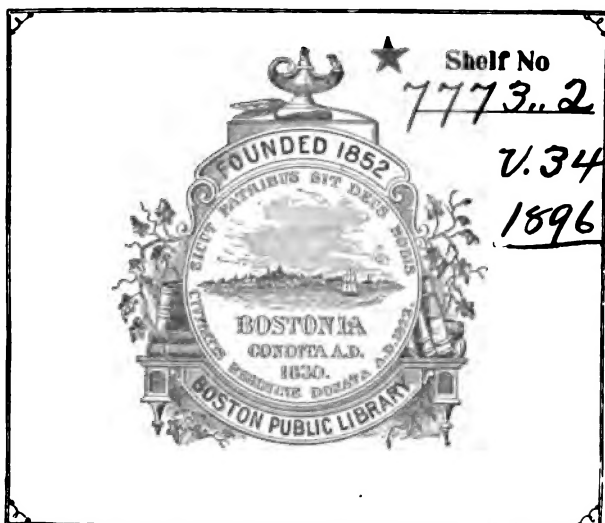
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AND

DISEASES OF WOMEN AND CHILDREN

EDITED BY

BROOKS H. WELLS, M.D.,

*Adjunct Professor of Gynecology, New York Polyclinic; Fellow of the New York
Academy of Medicine, the New York Obstetrical Society, etc.*

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CONTRIBUTORS TO VOLUME XXXIV.

BALDWIN, JAMES FAIRCHILD, Columbus, O.
BARKER, T. RIDGWAY, Philadelphia, Pa.
BEVAN, DAVID, Philadelphia, Pa.
BOLDT, H. J., New York, N. Y.
BOVÉE, J. WESLEY, Washington, D. C.
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CHASE, WALTER B., Brooklyn, N. Y.
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AND

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No. 1.

ORIGINAL COMMUNICATIONS.

VIRGINAL AND SENILE ENDOMETRITIS.¹

BY

PAUL F. MUNDE, M.D.,

Professor of Gynecology at the New York Polyclinic and at Dartmouth College;
Gynecologist to Mt. Sinai Hospital.

CHRONIC catarrhal inflammation of the lining membrane of the uterine cavity in the married woman is a well-known disease, and has been described in the text books for many years as a cause of sterility and as the result of certain injuries incurred during parturition or of pathological conditions (laceration of the cervix, subinvolution, retroversion) following that originally physiological function. The causes of endometritis in the married nullipara are usually insidious and slow in their action, like catarrhal affections of other mucous membranes. Repeated exposure to cold, a general catarrhal tendency, prolonged and frequently recurring pelvic congestion such as is produced by excessive sexual intercourse, especially if means for the prevention of conception are employed—these are the factors, combined with general anemia, which most commonly bring on a chronic endometritis in the married childless woman.

¹Read before the American Gynecological Society, May 26th, 1896.

In time sterility follows as a natural consequence of the catarrh of the endometrium, for the discharge is acrid and kills the spermatozoa, or the sensitiveness of the uterine mucosa causes an early expulsion of the fecundated ovum. In women who have borne children and have miscarried chronic endometritis is a very common result of subinvolution, especially if the latter condition is associated with laceration of the cervix, and sterility may or may not be then one of its consequences. Of these varieties of chronic endometritis I need say nothing more ; they, their causes, effects, and treatment are described in all modern text books on the diseases of women and are so common as to be familiar to us all. But this is not the case with the catarrhal endometritis which attacks the unmarried female and the woman who has passed the climacteric. The text books scarcely, if at all, refer to the occurrence of the disease at this time or age, and only recently have there appeared a few journal articles on this particular subject. This remark applies chiefly to virginal endometritis, of which, as a special form of the disease, there has not appeared, to my knowledge, a single distinct communication. On page 448 of my "Minor Surgical Gynecology," second edition, 1885, I mentioned the case of a virgin of 16, seen during the winter of 1881-1882 in my clinic at the College of Physicians and Surgeons, "whose cervix presented a distinct bilateral cleft with separation of the lips simulating so closely a laceration that only the presence of a tense hymen could convince me that it was not a puerperal lesion. An examination made with the smallest Sims speculum showed a broad, eroded cervix, the lips of which could be approximated with tenacula very much as in a true laceration. The importance of recollecting the possibility of a congenital malformation simulating a puerperal laceration of the cervix in the case of a supposed nullipara where the hymen happens to be absent should not be overlooked," etc. In the same paragraph I referred to an observation by Fischel, of Prague, of a congenital fissure of the cervix in a still-born infant. It is evident, therefore, that I myself at that time failed to grasp the true nature of the cervical deformity, attributing it to a congenital defect rather than, as the eroded lips should have led me to do, to a chronic endometritis. I have since had many opportunities to witness a similar condition and to avoid a repetition of this error ; but I regret that I have neglected to call attention to what I believe to be a far more common affection than is generally supposed.

Dr. Charles B. Penrose, one of our Fellows, read a paper before the College of Physicians of Philadelphia on February 5th, 1896 (a reprint of which he has kindly sent me since I began to write this article), entitled "Congenital Erosion and Split of the Cervix Uteri." in which he reports two cases of this occurrence and illustrates it by exceedingly graphic colored plates. In his reprint I find that Leopold had in 1872 reported to the Obstetrical Society of Leipzig a case of congenital erosion of the cervix, and that Ahlfeld had stated at the same meeting that erosions of the mucous membrane of the cervix uteri were of frequent occurrence in asphyxiated infants. Fischel remarks in his paper that in "almost thirty-six per cent of new-born infants the vaginal surface of the cervix from the external os toward the vaginal fornices is covered more or less extensively with a mucous membrane which, from the form of its epithelium, from its less papillary character, and from its possession of mucous glands and crypts, must be regarded as a direct continuation of the cervical mucous membrane."

On the subject of post-climacteric endometritis the general literature is about equally barren. Skene is quoted by Sexton, of Rushville, Ind., as having described the condition in *THE AMERICAN JOURNAL OF OBSTETRICS* as "senile endometritis," which name I myself gave the disease in my private case books years ago. (Sexton has made the common mistake of citing the time-honored *JOURNAL OF OBSTETRICS* when it should have been the *New York Journal of Gynecology and Obstetrics* for June, 1894, in which Skene's paper appeared.) Sexton's most excellent paper entitled "Post-Climacteric Endometritis" was read before the American Association of Obstetricians and Gynecologists at their last meeting in September, 1895, and was published in *THE AMERICAN JOURNAL OF OBSTETRICS* for November, 1895. From it I first learned of the appearance of Skene's article, as well as a reference to a recent paper by Dr. Maurange, of Paris, on the same subject. The observations of Skene, Sexton, and Maurange are almost identical with my own.

The undoubted frequent occurrence of chronic endometritis in the young girl or virgins of more or less advanced age and in the senile woman, the occasional severity of the symptoms produced, and the comparative paucity of the literature must be my excuses for bringing the subject before this Society.

VIRGINAL ENDOMETRITIS.

I will begin by saying that congenital fissure and erosion of the cervix do not come within the scope of this paper. My opportunities as a gynecologist have not given me the occasion to witness this malformation in the new-born ; I therefore do not claim to tread upon the same ground as Leopold, Ahlfeld, Fischel, or Penrose. I cannot deny, as conical or elongated cervix or sharp retroflexion or antelexion may be found in the newly born infant, numerous evidences of which are on record, that a congenital fissure of the cervix may not also be found ; I can simply repeat that I myself have never had the opportunity to see it. But I have seen, since the case to which I referred as having occurred in my clinic at the College of Physicians and Surgeons during the winter of 1881, quite a number of instances where the virgin uterus showed unquestionable signs of a chronic catarrhal inflammation, and where the lips of the external os had been so widely separated by the growth of the endocervical mucous membrane as to present a condition almost identical with that found after well-marked puerperal laceration of the cervix. I do not attempt to explain why chronic endometritis both of the corporeal and the cervical variety should not occur in virgins or nulliparous women ; there appears to be no valid reason why the mucous membrane of the uterus should not be subject to the same changes to which mucous membranes in other parts of the body succumb. But I do not believe that the profession as a rule are aware of the frequency with which these catarrhal changes of the endometrium occur in the virgin, or of the symptoms which they produce, or of the importance of recognizing and correcting these symptoms. It is a universal practice, and one with which on the whole within proper limits I concur, that the sexual organs of a young girl should not be subjected to local interference on the part of the gynecologist, and still there are limits to this rule. I have known young girls of 12 to 15 years of age to suffer so severely from a thick, yellow vaginal discharge, and to lose so much blood at their periods, as to warrant the unpleasant ordeal of a local examination. Our secretary, Dr. Coe, may remember a girl of 12 whom he saw at Long Branch some ten years ago for menorrhagia which refused to yield to the internal medication which he employed. I saw this girl in the autumn following at my office, examined her at the request of her mother, and found her to be a fully-formed woman, whose vagina admitted of an easy digital and specular exami-

nation and whose eroded external os showed that she suffered from catarrhal endometritis. My suggestion of curetting, not being very strongly pushed at the time, was not accepted, and in course of time, under iron and other tonic remedies, the girl's menorrhagia improved and she is now a happy and healthy married woman. Since then I have seen several other similar instances in girls below the age of 16, and in only one have I found it necessary to use the curette.¹

One of the most flagrant instances of the condition under discussion was seen by me during the past year. A young lady, 18 years of age, of slender, delicate build, arrived from Europe. Shortly before landing her normal menstrual period came on and persisted in such a violent degree that I was asked to see her. I was informed that several years previously she had profuse menstruation for several months, which gradually ceased and had not been in any way controlled by medication. A similar attack had occurred about six months before I saw her. I made a digital examination, which was rendered difficult by a tense hymeneal orifice, found a very sharply ante-flexed uterus, a slightly prolapsed and swollen left ovary, but nothing else abnormal about the pelvic organs. I should state that the uterus was in no way enlarged, but rather long and slender, as was to be expected in a virgin. The external os was gaping, admitting the point of my index finger. As I could not really believe that the condition was so serious as the mother insisted, there being very little hemorrhage when I saw her, I recommended rest, ice, ergot, and hydrastis; but during the next forty eight hours the hemorrhage increased so much that when I saw the patient again I was surprised at the change which had taken place in her appearance. She was so anemic and her pulse so feeble that I saw that further delay in active interference was out of the question. The family physician having in the meantime arrived from the West, at his and the family's request my advice of anesthetizing the patient and

¹ Only yesterday (May 25th) a young girl of 16 was brought to my office with a letter from her physician asking for a diagnosis. She had menstruated regularly for about a year, but for the last four weeks had suffered from a thick, brownish discharge. I found the external os gaping, with everted and eroded lips, and a thick, glairy, discolored discharge oozing from it. The uterine canal was widely patulous and the uterus large and soft for a virgin. I suspected masturbation, as the hymeneal orifice readily admitted the finger, but the patient absolutely denied the charge. The vagina and vulva were congested and eroded as a result of the discharge.

thoroughly curetting the uterus was accepted and at once carried out. The uterine cavity from external os to fundus was as widely dilated as though the girl had just undergone a miscarriage. The lips of the os were everted, eroded, and looked more like those of a puerperal laceration than those of a virgin. The curette removed an abundant quantity of adenoid vegetations. All hemorrhage ceased after this treatment and the young lady was enabled to leave for their country home within a week after the operation. I then expressed the opinion that further after-treatment would be necessary in order to effect a permanent cure of this condition, and I was right. Three months later a slight, persistent discharge of blood again occurred, not in any way weakening the patient, but simply annoying her. The external os was found to be still gaping, the lips eroded, and the catarrhal condition of the endometrium undoubtedly persisting. I then recommended a repetition of the curetting, and, in order to hasten the cure, the closure of the gaping external os by sutures, very much after the fashion of an ordinary trachelorrhaphy. This operation was not accepted at the time, and the family returned to their home in the West, where persistent local treatment by means of astringents to the external os was employed for several months. As the spotting, however, returned and the parents were apprehensive as to the result, the patient came back to me. I then found the erosion of the external os entirely healed, evidently in consequence of the local treatment, but the canal was as widely dilated as ever. I curetted the endometrium again and swabbed it out thoroughly with nitric acid, as a result of which treatment a complete cure was obtained, the canal not only becoming contracted to its normal dimensions, but the external os also resuming the conditions which one would expect to find in a virgin. How this young lady acquired her villous endometritis from which sprang the menorrhagia I do not pretend to say. but I am confident that such cases occur far more frequently than is generally supposed. I have seen a virgin of nearly 40 years of age from whose cervical cavity projected a mucous polypus which was fully two inches in length, and which caused a profuse muco-sanious discharge which annoyed the patient exceedingly and which was not relieved until I excised the polypus and curetted and cauterized the cervical cavity.

Although not exactly in point, the case of a young married woman whom I saw about two years ago seems to me worthy of mention, especially in regard to the method of treatment. This young lady was sent to me from Belfast, Ireland. She

had been married only a few weeks, and was referred to me because on connection there was a bloody discharge. I found the condition exactly similar to that of a lacerated cervix of the second degree, with everted and eroded lips. As she had never been pregnant there was only one explanation, and that was that she had been subject to a catarrhal cervical endometritis for some time, probably long before her marriage, as the result of which the cervical mucous membrane, particularly the glands and papillæ, had become so much hypertrophied as to force the lips of the cervix apart and evert them.

I am under the impression that the cases of congenital fissure of the cervix which have been reported by the observers mentioned were due to just such a gradual separation by the hypertrophied cervical mucosa, and that, after all, the apparent fissure of the cervix may have been the secondary condition.

Significance.—The significance of this peculiar form of endometritis in the virgin and nulliparous woman depends mainly upon the symptoms which it produces—namely, a more or less profuse muco-purulent discharge or menorrhagia. In the married nullipara, of course, sterility would be an additional probable result.

Diagnosis.—It goes without saying that a correct diagnosis can only be obtained by a digital and, in this class of cases, indispensable specular examination, even at the risk of destroying the hymen. The appearance presented by such a cervix is, as I have stated, almost identical with a puerperal laceration of the second and even third degree, with everted and eroded lips. The tenacula will bring together the normal edges of the cervical lips, precisely as can be done in a puerperal laceration. The medico-legal importance of properly estimating such cases must not be overlooked, and the appearance of the external genital organs, together with the probabilities of the case, should be taken into proper account.

Treatment.—In my opinion the treatment is simple enough, since it consists in excising the hypertrophic mucous membrane of the cervical cavity, curetting the whole of the endometrium with the blunt, and the cervical canal with the sharp, instrument, and, if the eversion is thought sufficient, of paring the lips and uniting them with silver sutures, precisely as is done for puerperal laceration. Penrose recommends amputation of the whole cervix. I do not think, from my experience with these cases, that this is necessary, for a complete cure can be just as well achieved by excising the diseased tissues and bringing together by sutures the sound ones, without in any

way altering the normal appearance of the cervix uteri. After-treatment by intrauterine alteratives may be necessary to effect a permanent cure, as would be the case in ordinary endometritis.

SENILE ENDOMETRITIS.

Both Dr. Skene and Dr. Sexton have covered this ground so thoroughly that I am almost reluctant to go over it again, and still I feel that I have a right to add to their observations my quite extensive experience.

I have for many years noticed that women who have passed the change of life were subject to a certain extent to a disagreeable muco-serous, pungent discharge which in course of time brought about an erosion of the lips of the cervix, of the vaginal vault, and a chronic vulvo-vaginitis. Such patients have consulted me again and again for this discharge, and I have treated them on the general principles of chronic endometritis. There being no bloody discharge in many of these cases, no suspicion of malignancy occurred to them or to me, and indeed there was no cause for any such suspicion. My explanation of these cases was that, the pelvic organs having undergone a gradual atrophy after the menopause, the nutrition of the various tissues was insufficient, and in consequence there was a breaking-down of the cell elements in the uterine mucosa and in the vagina, and a serous discharge was the result.

I found that not only women who had passed the natural menopause, but also those in whom that condition had been artificially brought on by the removal of the uterine appendages, were subject to senile endometritis. One lady from whom I removed the appendages for double ovarian hematoma six years ago, and who menstruated quite regularly for two years afterward and then abruptly ceased doing so permanently, consulted me last winter—that is, two years after the artificial menopause—for as bad a case of endometritis with consequent vulvo-vaginitis as I ever saw, which had come on gradually several months before I saw her. The discharge was so profuse and so virulent that both vulvo-vaginal glands became infected and abscesses formed in them. Partly from this fact, and partly because the disease refused to yield to the treatment I usually employ for these cases, I suspected gonorrheal infection (although I do not mean to say that Bartholinitis is always due to gonorrhea), but was forced to believe the husband's protestations of innocence (which, by the way, I do not

always do). Local treatment in this case gave only temporary relief, and only general tonic and hygienic remedies, chiefly a sojourn at the seashore, eventually restored the genital mucous membranes to a healthy condition.

That the lips of the cervix, the vagina, and the vulva should become eroded in time by the discharge is of course perfectly natural. I can say here frankly that I have succeeded in curing the large majority of these cases in old women by frequent applications to the endometrium and vagina—in fact, to any eroded spot—of a solution of nitrate of silver, from one-half to one drachm to the ounce, usually from three to four weeks being required to effect a permanent improvement. The treatment was then continued by the local application to the vagina of iodoform and tannin in powder, equal parts. But these are the simple cases. These are not the cases which have attracted the attention of the writers to whom I have referred, and these also are not the cases which form the most serious and important instances of senile endometritis. These simple muco-serous discharges are easily diagnosed and usually easily cured ; but in a certain number of cases the discharge assumes an entirely different character. The women who have not seen a sign of menstrual blood for one or more years, and who think themselves entirely safe from anything like pelvic disease, come to us because they have noticed for several months a bloody discharge from the vagina, not profuse in amount, but sufficient to soil and stain the linen—a so-called “spotting.” In some the discharge has not only been bloody, but it has gradually become exceedingly offensive and has eroded the external genitals. Now, it is not necessary for me to say to an audience like the present that symptoms like the above are strongly indicative of one particular form of disease—namely, of malignant degeneration of the uterus ; and it is therefore with that apprehension in our minds that we proceed to the examination of such patients.

Fortunately there are a few women with such symptoms who do not present the physical signs of the disease which they and we all dread so much. We find no evidence of malignant degeneration of the cervix ; we find a small, atrophic uterus, or at all events a uterus not enlarged ; we find an eroded cervix, a raw vagina and vulva, and on passing the sound up into the uterus a bloody, sometimes brown or blackish discharge takes place. Now, of course, the positive diagnosis of the malignancy or non-malignancy of these cases cannot be made by a mere

digital or specular examination; here it is that the microscope is usually indispensable to us for a confirmation or refutation of our clinical opinion. As a rule, I for my part have seldom needed the microscope to settle my diagnosis of the malignancy or non-malignancy of uterine growths or discharges. But in these cases of doubtful senile endometritis where the discharge is so offensive as to lead one strongly to suspect the malignancy of the disease, the microscope is our sheet-anchor. The diagnostic curetting and the examination of the scrapings are therefore the first indication.

I have been surprised to find in some such cases how very suspicious the odor and appearance of such discharges were and still how entirely benign the condition was. I remember an old lady of 60 from Connecticut in whom the discharge was so foul that I could scarcely bear to examine her in my office. The uterine canal was so contracted that I could hardly introduce a probe, much less a curette. I had no doubt that it was cancer of the endometrium. I admitted the lady to my private hospital and succeeded with great difficulty in dilating the uterine canal and removed quite a large amount of blackish, very offensive detritus with the sharp curette. It was found, to my surprise, that the disease was nothing but a chronic endometritis, with decomposition of the retained contents owing to the contracted internal os. Nitric acid was applied, the cavity thoroughly drained, and recovery was uninterrupted and permanent. I have seen within a few months an erosion of the vaginal vault, in an old lady between 60 and 70, of such an extent as to induce me to have the scrapings examined microscopically. Clinically I did not believe the case to be malignant, and my opinion proved to be correct. Under nitric acid and iodoform and tannin the erosion promptly healed.

It is probable that the presence of a fibroid tumor in the uterus may in some cases tend to favor the occurrence of senile endometritis; but the cases which I have seen do not carry out this view, which I find was advanced by Skene in the article referred to, neither do I think that senile endometritis is more common in cases where the uterus is displaced, prolapsed, or retrodisplaced than where it is in a normal position. I confess that I do not feel able to account for the occurrence of this affection, but I do know that it occurs more frequently than we think and its significance should be recognized and properly appreciated.

I have already indicated the treatment, which is quite as simple as that of endometritis under other circumstances—

namely, the curette: caustics, chiefly nitric acid, followed by solution of nitrate of silver and drainage; and finally, when the erosion has healed, a contraction of the secreting surface by the frequent application of iodoform and tannin powder. Under no circumstances does it seem to me that the radical measure of a vaginal hysterectomy is indicated for this disease; at least, no such case has as yet come under my observation.

20 WEST FORTY-FIFTH STREET.

THE BACTERIOLOGY OF VAGINAL SECRETIONS.¹

BY

BARTON COOKE HIRST, M.D.,
Philadelphia, Pa.

A BACTERIOLOGICAL study is at present being made in the University Maternity of the vaginal secretions of our pregnant women. I undertook to abstract for the bacteriologist the recent German literature on the subject. The study was so interesting, the results already obtained seemed to me so important, that I venture to present to the Section this brief paper embodying the important discoveries recently made, though we are not yet prepared to report our original work. I am further emboldened to present this mere compilation by the fact that the literature of the subject is almost exclusively German and is not therefore available for the English reader.

The effective study of the bacteriology of the vaginal secretions dates from Döderlein's monograph published in 1892.² Before this time the presence of bacilli in vaginal secretions had been noted by Hausmann, Gönner, Bumm, Winter, and Steffek. Gönner in 1887 found in vaginal secretions many varieties of micro-organisms, mainly, however, bacilli which were extremely difficult to cultivate in the ordinary culture media. The cocci in the secretions, many of which could be cultivated with ease, were found to be non-pathogenic.

Gönner concluded that the vaginal secretions contain no pathogenic bacteria.

¹ Read before the Section on Gynecology, College of Physicians of Philadelphia, April 16th, 1896.

² "Das Scheidensekret und seine Bedeutung für das Puerperalfieber." Albert Döderlein, Leipzig, 1892.

Bumm also failed to find pathogenic germs in the vagina.

Winter believed that pathogenic germs were present in the vagina in a state of lessened or absent virulence.

Döderlein examined the vaginal secretions of one hundred and ninety-five pregnant women. In these examinations notice was taken of the macroscopical appearance and of the reaction of the secretions, and as the result of this preliminary examination the secretions were declared to be normal or abnormal. In the two conditions the bacteriological find was quite different. In the normal secretion, which was of whitish color, of the consistence of curdled milk, unmixed with mucus, consisting of epithelial cells and mucous bodies, moistened by an exudate of lymph from the vaginal mucous membrane, and of an intensely acid reaction, there was found almost exclusively a certain kind of bacillus possessed of distinctive and characteristic qualities. No pathogenic germ was ever found by Döderlein in normal vaginal secretions, except a thrush fungus which is capable to a very limited extent of producing suppuration and destruction of tissue when injected under the skin or into the eye of an animal. In the pathologic, abnormal secretion, which was yellowish or greenish in color, of the consistence of cream, weakly acid or alkaline in reaction, mixed with mucus, containing often bubbles of gas, and secreted usually in very large quantities, the greatest variety of cocci and bacilli could be found.

Of his one hundred and ninety-five pregnant women Döderlein found that 55.3 had normal, 44.6 had pathological secretions.

Although a number of observers had found bacilli in the vaginal secretions before Döderlein, no one had so carefully studied their characteristics, functions, and cultivation, so that they are properly called the vaginal bacilli of Döderlein. They are, according to him, anaerobic. They have no motion. They produce by their life process an acid medium by forming lactic acid. They are frequently associated with an yeast fungus (thirty-six per cent, in normal secretions only) which Döderlein believes to be identical with the thrush fungus, *monilia candida* Bonorden.

The vaginal bacilli are antagonistic to staphylococci, which they have the power to destroy within certain limits. This was shown by several experiments, among others by infecting the vagina of a virgin with staphylococcus cultures in large quantities. Within four days the staphylococci had disappeared and

no bacteria remained within the vagina except the vaginal bacillus.

Döderlein attributes the germicidal action of the normal vaginal secretion to the production of an acid environment by the vaginal bacillus. He supports this view by the following facts :

1. That all pathological secretions swarming with saprophytes and with many pathogenic germs are weakly acid or alkaline.

2. That in a puerpera the vaginal bacillus disappears and in its place are found many kinds of saprophytes, the lochial discharge being alkaline.

3. That when the lochia cease the saprophytes disappear, the vaginal bacillus reappears, and the vaginal secretion becomes again intensely acid.

In only eight out of the one hundred and ninety-five cases examined were streptococci found. and in only five of these cases was it possible to demonstrate by inoculation experiments that the streptococci were virulent. In two cases the streptococcus possessed no virulence at all.

These discoveries of Döderlein have not been universally accepted. His views have not gone unchallenged, and further interesting properties of the vaginal secretions have been pointed out by others ; but we may safely acknowledge Döderlein's conclusions to be correct in the main as far as they go, and that his discoveries constitute the most important advance in the knowledge of this subject made by a single individual.

Following this study and stimulated by it have appeared a number of exhaustive investigations, the most important conclusions of which I have set down in a rather haphazard fashion in the following pages.

In examinations conducted by Burgubru, Williams, Stroganoff, and Burkhardt in twelve, fifteen, nine, and sixteen cases respectively, streptococci were found in one, three, two, and five. Or, taking the sum total of all these cases with Döderlein's, streptococci were found twenty-seven times in five hundred and forty-two women examined, showing that in only a small proportion of cases are dangerous pathogenic germs to be found in the vaginal secretions of pregnant women. And accepting Döderlein's results as correct, along with those of Winter, even in this small number of cases in which streptococci may be found a considerable proportion of the streptococci were non-virulent.

Krönig¹ in about two hundred examinations found that

¹ Deutsche Med. Wochenschrift, 1894, October 24th, p. 819.

the vagina in pregnant women, aside from the gonococcus and the thrush fungus, contained no pathogenic micro-organisms. The streptococcus was not found by him in a single case. Adding these examinations to the former series, the proportion of cases in which the streptococcus may be found is still further reduced. Moreover, Krönig inoculated the vagina with pure cultures of streptococcus, staphylococcus, and bacillus pyocyaneus, and found that none of these micro-organisms could be discovered after eleven to twenty hours.

Krönig attributes the germicidal properties of the vagina, which are demonstrated by these observations, to the flow outward of the vaginal secretions, and not to any special microbe having its normal habitat in the vagina. According to this observer, acid, neutral, and alkaline secretions all have germicidal power. Further, Krönig found that if, an hour after the infection of the vagina, an antiseptic douche of lysol were administered, not only were the infecting micro-organisms not destroyed by the douche, but also that it took the vaginal secretions nineteen to thirty-six hours to destroy microbes that without the douche would disappear in eleven to twenty hours.

These results were confirmed by Menge¹ in a study of the germicidal power of vaginal secretions in non-pregnant women, except that Menge rarely did find streptococci in the vagina. From a number of observations and experiments this observer forms the following conclusions as to the causes of the germicidal power of vaginal secretions, putting them down in the order, as he believes, of their importance:

The antagonism of the normal microbic flora of the vagina to the micro-organisms which may be deposited in the vagina by accident.

The products of the life process of the vaginal bacilli.

The acidity of the secretions.

The germicidal powers of the anatomical elements of the vagina.

The leucocytosis which is provoked by the chemotaxic action either of the vaginal discharges or of the infecting micro-organisms deposited there.

The phagocytosis following leucocytosis, and the absence of free oxygen in the vagina.

Walthard² has recently contributed valuable information

¹ Archiv für Gynäkologie, vol. xlviii., p. 201.

² Deutsche Med. Wochenschrift, 1894, October 24th, p. 819.

from the bacteriological study of the vagina in one hundred women ante et post partum.

According to Walthard, the genital canal of women is divided practically into two parts, one infected, the other sterile. The former comprises the vestibule, the vagina, and the lower portion of the cervical canal; the latter the upper portion of the cervical canal, the uterine cavity, and the tubal canals. The causes of this division of the canals, according to Walthard, are:

1. The plug of mucus stopping up the cervical canal, which, though not in itself germicidal, is poor in albuminoids and furnishes no nutriment for micro-organisms.

2. The leucocytes which are found in great numbers where the cervical secretion mixes with the vaginal secretion at the level of the external os.

According to this observer there are really three divisions of the genital canal: one, the lower, containing leucocytes and bacteria; the next containing only leucocytes; and the third, the upper, containing neither leucocytes nor bacteria.

It is supposed that the outpour of leucocytes is due to a chemotactic action exerted by the mixture of cervical and vaginal discharges, and that the phagocytosis follows naturally the leucocytosis.

In the vaginal discharges Walthard found both during pregnancy and after delivery pathogenic microbes—streptococci, staphylococci, gonococci, and the colon bacilli. The first-named were found in twenty-seven out of the one hundred women examined, but these streptococci had lost all virulence and had become veritable saprophytes. Inoculation experiments with them produced no results—that is, if they were inserted in normal tissues; but if a certain region of the animal's body was reduced in vitality, or if the condition of the animal's system was lowered in any way, the inoculation of these streptococci produced abscesses in which the micro-organisms rapidly regained all their original virulence until they became quite as deadly as the most dangerous of their kind. From his experiments and observations Walthard draws the following conclusions:

The virulence of the vaginal streptococci of a pregnant woman not examined for some time is equal to that of the streptococci that live upon other mucous membranes or in their secretions. In other words, the vaginal streptococci are not virulent and behave as saprophytes upon healthy tissues; but,

as in the case of the intestinal streptococci, the vaginal streptococci can become infectious when the resistance of the tissues with which they are in contact is diminished. The virulence that the vaginal streptococci attain under these circumstances is quite equal to that of the streptococci of puerperal infection.

Stroganoff,¹ from an examination of eleven pregnant women, supports Döderlein's assertion that the vaginal bacillus produces by its development lactic acid, and shows that while the vaginal secretions of the new-born are very weakly acid, they become more and more acid as bacteria develop in the vagina. He quotes experiments of Schlutter showing that an acid medium retards the growth of the staphylococcus and is destructive to the streptococcus of erysipelas. He further shows by experiments with culture media that the vaginal bacillus produces not only an acid medium, but also other products by its life processes that retard or prevent the growth of the staphylococci.

In these experiments the vaginal bacillus was cultivated and the culture then raised to a high temperature, so that the bacilli were destroyed. The culture was then inoculated with the staphylococcus pyogenes albus with negative result. If the culture, in addition to being treated as described, was made alkaline, the staphylococci grew, but not so vigorously as upon the same culture medium in which the vaginal bacillus had not been grown.

Stroganoff explains the sterility of the upper cervical canal and of the uterine cavity in all women, non-pregnant, pregnant, and puerperal, by the active germicidal properties that he believes are possessed by the cervical mucus, by the mechanical action of the flow of menstrual blood, by the same action of the descending placenta and membranes during labor, and by the outflow of the lochial discharge after labor. Perhaps there should be added the germicidal effect of blood itself, which property it has been recently demonstrated that blood possesses to a certain extent.

Stroganoff announces the following conclusions from his study: One finds in the vagina of pregnant women always a quantity of micro-organisms. The prominent form in normal cases is the bacillus, but there are in addition usually other forms present. Micro-organisms which liquefy gelatin are met

¹ Monatschr. f. Geb. u. Gyn., Bd. ii., p. 381. A complete bibliography of the subject up to 1895, by Döderlein, is appended to Stroganoff's article.

with comparatively seldom in normal cases, and then only in small numbers. A pathological condition of the vaginal mucous membrane alters the normal flora. The vaginal secretion of pregnant women is strongly acid in reaction. In addition to micro-organisms one sees usually under the microscope epithelial cells and isolated white blood corpuscles. The cervix contains normally, in the majority of cases, no micro-organisms. When they are present in that situation their number is small. The reaction of the cervical secretion is alkaline. In not a single case were there organisms in the cervix which liquefied gelatin. The external os is usually the boundary between that portion of the genital canal that contains micro-organisms and that portion which does not.

Vahle¹ finds that for the first twenty-four hours the vaginal secretions of new-born infants are sterile. By the third day they always contain micro-organisms, and in a considerable proportion of cases the staphylococci pyogenes albus and aureus and a streptococcus.

Stroganoff finds that within a few hours of birth the vagina becomes infected, and that in a certain proportion of cases the inoculation occurs *in utero* or during the passage of the child's body through the vagina. This is most likely to occur in breech presentations. A great variety of micro-organisms may be found in the vagina of the newly-born, including streptococci, diplococci, staphylococci, etc.

From this mass of facts, set down without any special order, the practical physician may draw the following conclusions, I think, to guide him in his work : The vagina becomes infected almost immediately after birth. In a normal condition it contains no pathogenic bacteria. It has strong germicidal powers, which serve to guard a woman against infection. These powers depend, as far as our present knowledge goes, upon the presence of a special bacillus and upon the products of its life processes; upon the leucocytosis due to chemotactic action; upon phagocytosis; upon the germicidal powers, perhaps, of the anatomical elements of the vagina, of the cervical mucus, and of the bloody discharge during menstruation and the puerperium.

During and after labor mechanical safeguards of the most effective kind are furnished against infection. These are the discharge of the liquor amnii, washing out the vagina; the passage of the child's body; the descent of the placenta and membranes, and the bloody discharge which follows.

¹ Zeitschr. f. Geb. u. Gyn., Bd. xxxii., H. 3, v.

Moreover, should the vagina exceptionally contain pathogenic bacteria, they are likely to be in a condition of diminished or absent virulence, in which condition they will not be productive of disease unless the tissues with which they come in contact are reduced in vitality.

Bearing these facts in mind, it would seem that the common practice of relying upon vaginal douching for disinfecting the vagina before labor, or before some gynecological manœuvre or operation, is faulty, not to say foolish. It has been clearly demonstrated that the injection of an antiseptic fluid into the vagina will not destroy pathogenic germs there, and will, moreover, rob the woman to a certain extent of the safeguards against infection that Nature provides for her. If, therefore, under certain circumstances, it is desirable to disinfect the vagina, mere douching should not be depended upon, but the vaginal mucous membrane should be thoroughly scrubbed out as well as douched, just as one would prepare the skin for an important surgical operation. This rule applies as well to obstetrical as to gynecological work. It has long been my practice in the former not to use objective antisepsis unless I see good reason for it in macroscopic evidence of a pathological condition of the vagina, but to confine my efforts to subjective antisepsis—that is, to the most thorough cleanliness of my hands, of my implements, and of the hands of the attendants who come in contact with the patient. When, in consequence of some diseased condition in the vagina, it is considered advisable to disinfect the lower genital canal, one should proceed just as though he were about to undertake some serious gynecological operation. That is, he should scrub out the vagina with tincture of green soap, hot water, and pledgets of cotton, before using a douche. He should not depend, as so many general practitioners do, simply upon an antiseptic vaginal injection.

1821 SPRUCE STREET.

SOME ASPECTS OF URETERITIS IN WOMEN.¹

BY

EDWARD REYNOLDS, M.D.,
Boston, Mass.

Etiology.—The etiology of ureteritis is given by Mann as (1) injuries during childbirth ; (2) previous disease of the bladder ; (3) gonorrhea ; (4) suppuration of the pelvis and kidney ; (5) pelvic disease, such as pelvic peritonitis, cellulitis, and tumors ; (6) abnormal conditions of the urine ; (7) tuberculosis.

My own experience has furnished me with instances of each of these classes of disease, with the exception that I have not seen any instance in which I thought the ureteritis due to previous non-gonorrheal disease of the bladder; and I am inclined to consider it an excellent classification, except that I do not think we are as yet sufficiently advanced in our knowledge of the urinary diseases of women to be in a position to postulate a statement that in cases in which the ureteritis is overshadowed by suppurative disease of the kidney it may not have been the original disease. In my experience, however, a majority of all the cases have seemed to me to have been inaugurated by an altered condition of the urine due to renal insufficiency, and in this paper I wish to confine myself wholly to this class of cases; but as the clinical pictures presented by the acute and the chronic stages of the affection are widely different from each other, I must ask your permission to speak of them in separate portions of the paper. Ureteritis is far from an infrequent disease, but, while the symptoms of even mild ureteritis may be extremely distressing, its physical signs are often insignificant and easily overlooked, and I think that the reason why so many gynecologists still fail to detect ureteritis with a fair degree of frequency is that they expect to find a more well-defined and pronounced lesion than in fact exists.

Diagnosis of Chronic Ureteritis.—The symptoms most characteristic of ureteritis are, in my experience, first, a frequency of micturition, which is increased by the erect posture, and especially by standing, but is not wholly relieved by recom-

¹ Read before the American Gynecological Society, May 27th, 1896.

bency, the patients being invariably obliged to rise from one to many times at night—the micturition may or may not be painful ; and, secondly, a bearing-down pain, which is increased by standing, but is usually completely relieved by a few hours' rest in bed. These two symptoms may of course be produced by other pelvic lesions than ureteritis, but their combination is so much more commonly the result of an ureteral affection that its existence should always lead to a careful search for the physical signs of this affection.

Severe ureteritis may lead to a palpable enlargement of the ureter, but the physical signs of the milder degrees of the disease, obtainable by vaginal examination, are usually limited to the excitation of tenderness and a desire to urinate by pressure over the vaginal portion of the affected ureter. This tenderness is usually so closely localized as to be easily overlooked, but when once it has been found its strict limitation to the situation of the ureter is of course a diagnostic point of great importance. When the micturition is painless it is sometimes wise to rest content for a time with the provisional diagnosis which can be obtained from the symptomatology and vaginal examination, and to institute the appropriate medicinal treatment, without subjecting the patient to the painful cystoscopic exploration of the bladder ; but when the micturition is painful it is always best to examine the bladder at once, because in this class of cases both the pain and, to some extent, the frequency can usually be promptly, though not always permanently, relieved by topical treatment of the bladder.

The signs obtainable from cystoscopic examination comprise an alteration of the vesical orifice of the affected ureter or ureters, alterations of the vesical mucous membrane around these orifices, and a very curious alteration of the character of the urine secreted through them, the significance of which I do not wholly understand, but which I think is of diagnostic value.

The appearance of the vesical orifice of an inflamed ureter varies from a slight reddening and gaping to an actual eversion of the ureteral mucous membrane, till, in extreme cases, the orifice shows as a round hole situated on the summit of a little mound of angry-looking mucous membrane. The vesical mucous membrane in the neighborhood of the orifice may be normal, but is more commonly red and injected, or even roughened and eroded, the latter sometimes to a degree which approaches ulceration ; and I have several times seen cases in which there was a strip of inflamed mucous membrane which extended diagonally

ally downward and inward from the ureter, toward and almost to the internal orifice of the urethra. In eight cases of unilateral ureteritis in which I have recently catheterized both ureters, the percentage of urea, as determined for me in the laboratory of Prof. Wood, of the Harvard Medical School, was in every case decreased upon the affected side as compared with the sound one ; and the etiological importance of the renal insufficiency, which was demonstrated by examination of the twenty-four hours' mixed specimen, was to my mind increased by the constant and distinct, though usually slight, increase of this renal insufficiency upon the inflamed side. I am fully aware that my observations upon this point are too few to be trustworthy, and I have not yet been able to determine how much weight should be given to the reflex alteration of the function of the kidneys which is a not improbable result of the presence of the catheters ; but I mention the point here, first, in the hope of interesting other observers in it, and, secondly, because it has already led me into what has proved to be, on the whole, the most satisfactory method of treatment which I have so far found.

Treatment.—The treatment of this affection should be divided into palliative and curative methods. In the class of cases in which the vesical mucous membrane in the neighborhood of the ureteral orifice is in a state of localized inflammation, I have always obtained a prompt relief of the pain on micturition, and usually a decrease in the frequency of urination, by the use of strictly localized applications of the solid nitrate of silver to the inflamed areas. When the ulcers or erosions extend into the neighborhood of the urethral opening, or when the nitrate is too freely applied, the application is apt to be followed by temporary increase of the symptoms ; but this increase seldom lasts more than twenty-four hours and is then followed by relief. When it is not necessary to approach closely the urethral orifice and the nitrate is sparingly used, the relief is usually immediate ; but complete relief of the painful micturition cannot be expected until all the inflamed vesical mucous membrane has been restored to health—a process which may sometimes take from one to three weeks, and even then the frequency of micturition and the bearing-down pain which are so characteristic of the affection are usually but slightly improved. The relief of these symptoms must depend on the cure of the underlying and less accessible ureteral inflammation.

In the curative treatment of ureteritis we are forced to rely

upon the use of general hygienic and medicinal measures. First among these must be placed, I think, the regulation of diet, and first in this particular the ingestion of an amount of bland fluid equal to at least three pints of water, and, better, four. The soothing effects of the increased ingestion of water may be advantageously supplemented by an alkaline diuretic. For the rest, the patient should be put on a bland, nutritious, and, I think, largely albuminous diet. Asparagus and strawberries should be absolutely interdicted ; other fruits should be used but sparingly, and the highly flavored vegetables in general, such as tomatoes, onions, cabbages, etc., should be tried with caution. General massage has, in the few cases in which I have been able to prescribe it, been of the greatest benefit to the patients ; and I should be inclined to advocate active exercise, such as the use of the bicycle, but circumstances have as yet prevented me from obtaining practical experience upon this point.

As regards medicinal treatment, I had seen but little benefit from the use of any drugs except alkalis, until my observation of the urine drawn by ureteral catheterization called my attention to the decrease of urea in the specimens from the affected side in unilateral cases, and so led me into a, to me, new train of reasoning. It is probable that the condition which we call renal insufficiency is less a functional vice of the kidneys than a deficiency in the metabolism of the body as a whole. We know but little of the ultimate characteristics of the urine in renal insufficiency, but if this condition is in fact the result of an imperfect metabolism its urine may well contain unknown irritants. If, then, the urine may perhaps contain in these cases an irritant which is the result of an imperfect metabolism, it might be well to try the experiment of treating it by the use of the so-called alterative drugs, which act by increasing the general metabolism of the body as a whole. As a result of this train of reasoning I turned to the use in ureteritis of the small doses of iodide of potash, mercury, or the iodide of potash and mercury mixed, which Dr. Etheridge's paper of last year first brought to my notice for the treatment of renal insufficiency. It is too soon to speak of the results, but I may say that I think I have so far had more improvement under this treatment than from any other, and that the improvement has seemed to me to be directly proportional to the increase of urea as shown by examinations of the urine.

I regret to say that I have not yet felt justified in studying

the improvement of a unilateral case in the light of repeated catheterization of the inflamed ureter; but I am at present engaged in a more extended study of the urinary chemistry of ureteritis, with the collaboration of Dr. J. B. Ogden, Assistant in Urinary Chemistry, Harvard University, and I hope yet to have cases in which I may consider such catheterization justifiable.

No one interested in ureteritis can have failed to realize that our knowledge of its treatment is as yet far behind our knowledge of its diagnosis. No one can be more well aware than I that its treatment is as yet unsatisfactory, and I offer my observations upon the subject merely as suggestions and with the utmost willingness to find them disproved by future research.

Acute Ureteritis.—The clinical picture presented by an acute ureteritis is a very distinctive one, and the affection is so frequent that it is very strange that we have not sooner learned to recognize it. It is probably often mistaken for intestinal colic, pain due to renal stone, catarrhal appendicitis, or acute catarrhal salpingitis.

A woman in good health, or, more frequently, one who has maintained a fair degree of health in spite of a moderate renal insufficiency, is suddenly attacked by abdominal pain, which may be limited to one side, but is more frequently pronounced on one side and moderate on the other. The pain is somewhat intermittent and often fairly severe. General abdominal tenderness may be absent throughout the attack, but a close attention to what I am inclined to call the three cardinal points in acute ureteritis will show during any part of the attack a considerable, though perhaps closely localized, tenderness at some one or more of them. At the beginning of the attack tenderness is elicited only by deep palpation of the affected kidney and its pelvis—the first cardinal point (the affection, in my experience, has usually been bilateral, but always more pronounced upon one side than upon the other). A day or two later this renal tenderness has perhaps decreased, but there is now a very marked tenderness at a point midway between the umbilicus and the anterior superior iliac spine (*i. e.*, at McBurney's point, diagnostic of appendicitis, or a corresponding point upon the left side)—the second cardinal point; this tenderness is often so closely localized as to be very easily missed, except on careful search, but is usually extremely marked when found. As the attack passes off the renal tenderness disappears, and the tenderness at McBurney's point, or its fellow,

decreases ; but a new tenderness now appears on deep pressure at a spot about an inch above the centre of Poupart's ligament—the third cardinal point. Vaginal examination is negative till about the time when this last-mentioned tenderness appears ; but from that time on a vaginal examination will reveal the characteristic tenderness, and usually a distinct swelling, of the vesical end of the affected ureter. Examinations of the urine made during the attack may or may not show concentration, according, I suppose, as a vicarious compensation appears or does not appear in the unaffected kidney. They may occasionally show the existence of crystals of uric acid or calcic oxalate in a limpid urine—a phenomenon which is almost pathognomonic.

At the beginning of the attack it cannot be differentiated from colic due to renal stone (of course it is sometimes due to the passage of crystals or gravel), but the clinical course of the affection will usually in the end distinguish it. In the middle period of the attack a right-sided ureteritis closely simulates a catarrhal salpingitis ; but the urinary symptoms, and the appearance of tenderness over the lower end of the ureter as the attack passes off, will easily differentiate it to a careful observer. If only the final stage of the disease is noted it may very easily be mistaken for a catarrhal salpingitis, though a careful localization of the tenderness and swelling should prevent any mistake of diagnosis at this stage. Even when ureteritis is complicated by intestinal disturbances, the characteristic progress of its tenderness from above downward, the appearance of the vesico-ureteral tenderness, and the urinary disturbances will easily distinguish it from intestinal colic ; though without close observation a left-sided ureteritis accompanied by constipation might be mistaken for colic due to obstruction in the rectum or sigmoid flexure.

The affection tends toward a recovery, but without treatment it probably usually ends in the establishment of a chronic ureteritis. If the patient is kept in bed, on a bland diet, under alkaline diuretics and the ingestion of a large amount of water, I think that there is usually a good prospect of an immediate and complete cure. I have thought that the use of small doses of mercurials is of distinct benefit, even in the acute stages of the affection.

I am inclined to believe that the disease is a common one, but its short course and comparatively mild character will probably always render it infrequent in hospital practice, and

I can only say that within the last six months I have seen three cases in my own private practice.

In closing I wish to illustrate the ease with which mistakes in diagnosis can be made, by brief reports of two typical cases, the one of chronic, the other of acute ureteritis, both of which were among the first cases of ureteritis which were forced upon my attention.

CASE I.—A single woman of 35 came to my office in the autumn of 1894 with the following history: She had been obliged to micturate at intervals of from one to three hours during the daytime, and from three to six times at night, for nearly twenty years, micturition being sometimes painful and sometimes not; and had for the same time been afflicted by a bearing-down pain, which was invariably excited by long walking or by standing still for even a few minutes, but which did not trouble her at night. On vaginal examination the uterus was found to be in extreme anteversion and decidedly low in the pelvis, somewhat large and heavy; the left ovary was prolapsed and adherent at the side of the uterus, and about fifty per cent larger than its fellow. She was first given six months of wholly ineffective minor treatment by pessaries, packing, vaginal applications, etc., during which time I made a cystoscopic examination, but failed, either by this means or by the vaginal touch, to detect the ureteritis which subsequent events make me think was undoubtedly present. I then opened her abdomen, removed the diseased ovary, and stitched the fundus to the abdominal wall at as high a point as I thought safe. The other ovary showed several small cysts, which I should ordinarily have treated with the cautery; but as the patient was an old maid, who had begged earnestly that the other ovary might be removed if there was any excuse for so doing, I rather reluctantly removed it—a procedure which was, I think, a mistake. She made a particularly rapid and comfortable recovery from the operation, only to find her symptoms wholly unrelieved, and, indeed, much aggravated by the very distressing nervous and mento-nervous disturbances of an exceptionally trying, forced menopause.

As soon as I thought that her nervous condition warranted further local treatment I again subjected her to a vaginal, and later to a cystoscopic, examination, and with the altered condition of her organs, and with the added knowledge which I had gained in the intervening year, easily diagnosed a left-sided ureteritis attended by numerous vesical ulcerations. She has

since gone through the usual protracted course of patients who suffer from ureteritis, but has in the last two months improved so markedly under alternate mercurials and iodide that I feel justified in looking for a complete cure of her symptoms within a short time. To my mind her ureteritis was probably due to pressure from the prolapsed and adherent ovary, which lay directly over the course of the ureter; and if this view be right, the celiotomy, though therapeutically a failure, was probably a necessary preliminary to any successful treatment of the cause of the symptoms. But the total failure of the oöphorectomy to relieve either the frequency or the bearing-down pain, both of which I had attributed to the condition of the ovary, and their gradual relief under the treatment of her ureteritis, convinced me that this, though perhaps a secondary condition, was at the time of the operation the essential cause of her symptoms, and that without its discovery the operation must have remained permanently a therapeutic failure.

CASE II.—A married woman of 45, who has been for many years my patient, but whose local troubles have always been subordinate to a debilitated general condition, was attacked in December, 1894, by severe pain in the right hypochondriac region. I was at the time temporarily absent from the city, and a very competent gynecologist, in whose care I had left her, finding, or thinking that he found, an enlargement at the beginning of the transverse colon, diagnosed the attack as obstruction of the colon. On my return a few days later she was complaining of sharp pain referred to the umbilicus, and on examination I could detect nothing but a sharp tenderness closely localized to McBurney's point. There was little or no temperature, and I made a diagnosis of catarrhal appendicitis. The family growing a little troubled at the policy of inaction which I recommended, I called in one of our most prominent general surgeons, who heartily agreed with me as to both diagnosis and treatment. A vaginal examination made at this time was wholly negative. The urine contained large, sharp-pointed crystals of both uric acid and calcic oxalate, but this was attributed to the general disturbance dependent upon appendicitis. Three days later the tenderness had moved down to what I now call the third cardinal point in ureteritis, and vaginal examination showed the vesical portion of the right ureter to be exquisitely sensitive and nearly of the size of a cigarette by estimation. Under diuretics the urine rapidly became limpid, but for some time continued to contain both uric acid

and calcic oxalate crystals. As this condition passed off the patient slowly but completely convalesced. In the eighteen months which have since elapsed she has been kept steadily upon diuretics, a regulated diet, and, at intervals, general massage. She has remained steadily well, except on four occasions when, after severe fatigue, exposure to wet weather, or both, she has had attacks which were similar to the first, but milder, and which were always attended by crystals in the urine. The most severe of these attacks occurred in New York, under the care of one of our own Fellows, to whom I had referred her; but notwithstanding his well-known acuteness in diagnosis, and the fact that the patient told him that she had previously suffered from renal gravel, he diagnosed a mild colitis. On the patient's return to Boston I found the lower end of the right ureter tender and swollen, and the familiar crystals appearing in the limpid urine. I wrote to New York, asking her attendant there for a description of the attack, giving him a full account of her history, and inquiring whether or not the history would lead him to revise his diagnosis. In his reply he stated that there was nothing in the attack which he saw especially characteristic of colitis, but that he had not observed sufficient evidence to warrant a diagnosis of ureteritis. To my mind the fact that the four attacks which this patient has had have each been followed by a sensitiveness and enlargement of the ureter which was not present in the intervals, is abundant evidence of a diagnosis of ureteritis; yet the case was diagnosed by two experienced gynecologists as colitis, and by a gynecologist and an eminent surgeon as appendicitis.

130 MARLBOROUGH STREET.

PAPILLOMA LINEARE.

BY

GEORGE HENRY FOX, A.M., M.D.,

Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York ;
Physician to the New York Skin and Cancer Hospital, etc.

(With plate and two illustrations.)

THE affection of the skin to which attention is now briefly called under the name of linear papilloma is somewhat rare and is described in the text books of dermatology under a variety of titles. It is frequently congenital, often develops in childhood,

but may first appear in later life. It is characterized by warty excrescences, either colorless or pigmented, occurring in small groups running in one or more lines for some distance over the surface of the skin and frequently appearing upon only one side of the body. The neck, trunk, or one of the extremities may be the seat of the disease, and in rare cases the greater portion of the body may be affected. In congenital cases the warty out-



FIG. 1.—Linear papilloma.

growth is apt to be fibrous and tough, while in cases developing later in life the lesions are softer, sometimes slightly scaly, and far more amenable to treatment. In some cases they have been known to disappear spontaneously or after some cutaneous exanthem, but a tendency to reappear upon the same site is usually manifested.

Of the names which have been applied to the affection the following may be mentioned : *ichthyosis hystrix seu localis*,



PAPILLOMA LINEARE.

From the collection of photographs of
Dr. GEORGE HENRY FOX.

ichthyosis linearis neuropathica, nævus verrucosus, nævus unius lateris, nerve nevus, and papilloma neuroticum.

The dark, fissured masses sometimes observed about the elbows and knees in severe cases of ichthyosis bear some resemblance to the warty lines seen in this affection, but they are simply accumulations of epidermis and not papillomatous in character. In linear papilloma, however extensive it may be,



FIG. 2.—Linear papilloma.

there is nothing suggestive of ordinary ichthyosis, and the statement made by some writers that a xerodermatous or parchment-like condition of the skin often coexists with papillomatous streaks is by no means in accord with my experience. The disease in question might be classed with ordinary verruca (warts) more justly than with ichthyosis.

The term nævus verrucosus would be applicable to this affec-

tion, but the fact that this name is commonly applied to the soft, flattened, pigmented, warty outgrowths so frequently seen upon the backs of old men and women renders its use objectionable in case of the disease under consideration. *Nævus unius lateris* is descriptive of most cases of this affection, but the fact that it may occur on both sides in certain cases may cause the name to sound absurd at times.

The papillomatous streaks of this disease (like zoster) run transversely upon the trunk and longitudinally upon the extremities. They run in the direction of the natural cleavage lines of the skin, and, though they usually appear to follow the cutaneous distribution of certain nerves, they do not always do this with any great degree of accuracy. It would seem, therefore, that the name of linear papilloma as a descriptive title was preferable to the term nerve nevus or papilloma neuroticum.

In the accompanying plate, illustrating a case presented to the New York Dermatological Society by Dr. Cutler, the linear character of the affection is plainly shown in the streak coursing down the thigh and leg. In Fig. 1 the verrucous surface of the patch is quite apparent, while in Fig. 2 is seen the tendency of the lesions to form a broad, pigmented, warty patch in the axilla, from which a single line runs down the inner surface of the arm.

The treatment of linear papilloma consists in the use of agents which tend to destroy or remove the excrescences. In cases of recent development, where the lesions are soft, the repeated application of a saturated solution of salicylic acid in collodion will act as effectively as it usually does in the case of corns and warts, and will soon leave the affected skin in a normal condition. In cases of longer standing it is advisable to use the curette, and where the eruption is extensive to remove small portions of it at a time. But in certain cases, especially those which have existed since birth, the lesions are apt to be of such a dense fibrous character that the curette is of little use, and their removal is best effected by means of the curved scissors. It is doubtful whether any internal remedy is capable of affecting the growth in any notable degree.

18 EAST THIRTY-FIRST STREET.

TREATMENT OF PELVIC SUPPURATION BY ABDOMINAL SECTION WITHOUT HYSTERECTOMY.¹

BY

REUBEN PETERSON, M.D.,

Fellow of the American Association of Obstetricians and Gynecologists;
Member of the Chicago Gynecological Society,
Grand Rapids, Mich.

FOR the purpose of this discussion the term "pelvic suppuration" will be restricted to purulent or cheesy collections within the tubes or ovaries, with or without an accompanying involvement of the peritoneum and cellular tissue. The true pelvic abscess, or a purulent inflammation of the pelvic cellular tissue following puerperal infection without involvement of the tubes and ovaries, will not be considered.

Our subject will naturally be treated from two standpoints :

1. What cases of pus in the pelvis shall be attacked by the abdominal route ?
2. Provided that the abdominal route be indicated, in what cases will removal of the uterus be demanded ?

The work of Péan, Jacobs, and others in the treatment of pelvic suppuration by vaginal hysterectomy has been productive of a great deal of good. It has shown us what can be done by the vaginal route, if enough time be spent in acquiring a most difficult technique. It has demonstrated the possibility of vaginal exploration for diagnostic purposes, and, finally, it has brought prominently to our attention a fact long known, but of recent years somewhat lost sight of—that with a patient *in extremis* from long-continued pelvic suppuration, evacuation of the pus should be sought through the vagina rather than through the abdomen, and thus time be given the patient to recuperate before the more radical operation be resorted to. But, like all surgical procedures which have given good results in the hands of experts, the vaginal operation has been employed too frequently and in unsuitable cases. It has become almost a fad in some localities, so that we hear of men who have won enviable records as abdominal operators giving up the suprapubic route and working entirely from below. Not

¹ Read before the Michigan State Medical Society, June 4th, 1896.

that I would do away altogether with these extreme views or methods. They answer their purpose in calling attention to the claims of their adherents and enabling the surgical world to select for permanent use what is really good and lasting.

In the treatment of pelvic suppuration the abdominal route should be chosen:

1. Whenever there is a chance of applying the principles of conservative surgery.

2. Whenever bilateral pus sacs are present and complete enucleation is desirable.

3. Whenever the pus points high up in the abdominal cavity.

1. *Conservative Surgery through the Abdominal Route.*—Granting all that the advocates claim for the vaginal route, there is little doubt but that the suprapubic method offers better opportunities for the application of methods tending toward the preservation of the whole or part of the appendages. This is especially true where there exists a decided collection of pus in the tube or ovary on one side and a doubtful condition upon the opposite side. Here the advantages of an abdominal incision for the inspection of the doubtful appendages are marked. The appendages on the less affected side are usually bound down by adhesions from former attacks of pelvic peritonitis, even if there be no formation of pus. The abdominal route and, if need be, the Trendelenburg position enable the operator not only to feel but to see the adhesions. In this way the latter may be broken up with but slight impairment of the integrity of the tube or ovary. As Baldy stated recently before the Philadelphia Obstetrical Society, a majority of the cases of inflammatory pelvic conditions will not reveal fluid pus within the appendages. The pus has in many cases become cheesy and the tube wall thickened by repeated attacks of pelvic peritonitis. The uterus may be fairly movable, but the appendages, one or both, will be bound down to the pelvic floor by dense adhesions. It requires the greatest judgment, acquired only by experience, to determine which tube and ovary, when released from its adhesions, can be safely left. How often have we debated this question upon the operating table with the released tube and ovary between our fingers! And in more than one instance where it was deemed best to leave the appendages on one side, the result has proved the wisdom of the decision. Can any one say that this decision could have been arrived at as well had the operation been performed through a vaginal incision? Those who have operated by both

routes, who have seen the difficulties attendant upon the breaking-up of dense adhesions, will not hesitate in their choice of procedures when there is a chance of preserving some portion of the appendages.

2. *Whenever Bilateral Pus Sacs are present and Complete Enucleation is desirable.*—It is my firm conviction that clean pelvic surgery should be practised whenever practicable. In other words, whenever it seems desirable to enucleate a pus tube, instead of merely incising and draining, every particle of the diseased wall should be removed. This can be accomplished much better and with less danger to the adjacent organs by the abdominal than by the vaginal route. A careful study of the work of the best operators by the vaginal route will show many incomplete operations. The purulent tubes and ovaries are removed whenever possible, but many are left behind and are a menace to the patient ever afterward. The walls of these abscesses are foreign bodies and have no place in the pelvis.

In inflammatory pelvic conditions bowel adhesions are the rule, not the exception. These can be treated much better from above. In fact, according to the statements of the vaginal operators, if the bowel be opened high up in the attempts to separate the adhesions, the abdomen must be opened for the repair of the rent if the general peritoneal cavity has been entered. An abdominal operation does not consist merely in the enucleation of the pus sacs. The intestines may be adherent to the omentum, uterus, and one another, and a complete operation means the releasing of these adhesions so that future suffering may be avoided.

In not a few instances of bilateral pelvic suppuration the appendix is involved. In case of this complication the vaginal operator is decidedly handicapped. The condition either escapes his notice, or, if discovered, it cannot usually be safely dealt with save by an abdominal incision.

3. *Whenever the Pus points high up in the Abdominal Cavity.*—Occasionally we meet with an exception to the general rule that a pus tube is to be found resting upon the pelvic floor and easily accessible through the cul-de-sac of Douglas. It has been my experience that in pyosalpinx and ovarian abscess following childbirth the pus sacs are situated high up in the abdomen and are practically inaccessible through the vagina, unless a comparatively unaffected pelvic cavity be traversed to reach them. These cases should be treated by abdominal

incision and the pus sacs enucleated or drained. according to the condition of the patient ; for in many instances these large abscesses which point high up in the abdomen occur in women weakened by severe septic absorption, which renders enucleation extremely hazardous. In such cases incision and drainage will be demanded and recourse will be had later to the radical operation. I shall leave to those to whom that part of the discussion has been assigned the description of the cases of pelvic suppuration which *should* be attacked through the vagina, and pass to the second division of my subject, namely: *Provided that the abdominal route be indicated, in what cases will removal of the uterus be demanded ?*

If a uterus be so diseased that its retention after bilateral removal of the adnexa is a barrier to complete restoration to health, it certainly is good surgery to remove it at the first operation. The true surgeon is not operating according to any fixed rule. He is resorting to the knife for the cure of his patient and the preservation of as many organs or as much of any one organ as is consistent with the well-being of his patient. His judgment should be unbiassed by a predetermination to apply any fixed rule to all cases. If the rule does not fit the particular condition present, so much the worse for the former. The interests of the patient are paramount. For this reason it is not good pelvic surgery to establish a universal rule that whenever the appendages are removed for bilateral inflammation the uterus also should be sacrificed ; for this rule, if strictly enforced, will surely conflict with a fundamental surgical maxim that no organ should be sacrificed except upon well-established pathological grounds.

Experience has shown us that many of our pus cases requiring bilateral removal of the adnexa do not regain their health ; that these patients suffer from purulent uterine discharges, from metrorrhagia, and from severe reflex symptoms arising from the diseased uterus, and that these symptoms persist in spite of curettage before and after the abdominal operation. On the other hand, we find that there are many recoveries, complete restoration to health, with no persistent uterine or reflex symptoms, when purulent collections within the appendages have necessitated their removal. To my mind it is simply a begging of the question, an intellectual shirking of a difficult surgical problem, to adopt a universal rule that the uterus should be removed whenever both appendages have been sacrificed. Polk and others claim that the uterus under these conditions is a

useless organ and should therefore be sacrificed, because *some* cases fail of cure without this additional procedure.

We have passed beyond the developmental stage of hysterectomy. The operation has been so perfected that in the hands of experts the mortality is not increased over that attendant upon bilateral salpingo oöphorectomy. On the other hand, so much better, in my experience, is the convalescence in cases where the uterus has been removed that it is a temptation to do so in every case. But the conservative surgeon must needs hold his hand. We should not talk too lightly about this functionless uterus after its appendages have been ablated. There is a possibility that its importance and influence over other parts of the body is but little understood at the present time, and that future investigations will make us repent having sacrificed the organ except for the strongest pathological reasons.

Removal of the uterus means that we have no hope that the less radical measures of treatment of this organ will prove of avail. I do not believe that we are willing to make this acknowledgment in every case where both appendages require removal. Combined clinical, pathological, and bacteriological investigations will soon place us in a position where we can decide upon the operating table which case will require hysterectomy and which will not. The recent work of Wertheim, Döderlein, Werth, and others has greatly increased our knowledge of the origin and course of endometritis. It has demonstrated that gonorrheal endometritis especially is a most serious disease, both from its tendency to spread to the tubes, ovaries, and pelvic peritoneum and also because of the frequency with which the muscular wall of the uterus is affected. But I am convinced that the position of Schauta is untenable when he claims that all of the internal female generative organs should be sacrificed when it can be shown that a pyosalpinx is due to gonorrhea. Yet, at least, he is more logical in his reasoning than some other operators, because he frankly admits that in the presence of gonorrheal endometritis we are powerless to save the appendages on the opposite side. The same men who would advocate removal of the uterus when both sets of appendages have been ablated would not urge or practise hysterectomy when one side is unaffected, even though a history of gonorrhea could be clearly proved. Yet if the endometritis and metritis can be cured in the one case, why not in the other? For my own part I do not believe we are powerless, in the presence of gonorrheal disease of the uterus and appen-

dages, to effect a cure of the former by no means short of the radical operation. My own clinical experience leads me to think that a thorough removal of the endometrium by the sharp curette and subsequent drainage will cure many cases of endometritis proved beyond doubt to be gonorrheal.

There are but four classes of cases where I would consider it justifiable to remove the uterus when both appendages have been sacrificed for purulent disease :

1. When the uterus is so diseased that less radical procedures than hysterectomy probably will fail to relieve the patient of subsequent suffering.

2. When the appendages are tubercular. In these cases we are dealing with a serious disease which should be treated by the most radical measures.

3. Where the peritoneal covering of the uterus, and even the body of the organ itself, has been badly injured by the enucleation of the purulent appendages. Here the danger of subsequent bowel adhesions and intestinal obstruction might decide one to perform hysterectomy.

4. In some bad cases of pus tubes it may become necessary to remove the uterus for the purpose of securing free vaginal drainage.

In all other cases I would advocate a thorough curettage and retention of the uterus.

PYTHIAN TEMPLE.

A CASE OF PLURAL ECTOPIC GESTATION:

RUPTURE; OPERATION; RECOVERY; SUBSEQUENT UTERINE PREGNANCY.

BY

P. MICHINARD, M.D.,

Professor of Obstetrics and Gynecology at New Orleans Polyclinic,
New Orleans.

(With one illustration.)

THIS case presents the following points of interest: 1. At the time of rupture the tube contained two fetuses, each with its individual placenta. 2. One fetus was small (two and a half inches long) and flattened. 3. The other fetus was normal in appearance and about thirteen inches long. 4. At the time of rupture the patient had not menstruated for nearly nine months. 5. The patient never had any symptom that indicated

disease of the uterus or of the appendages. 6. The tube on the opposite side was healthy in appearance. 7. The patient is now in the fourth month of uterine pregnancy and does not present any sign of tubal or ovarian disease.

CASE.—On the morning of September 12th, 1895, Drs. P. H. Le Blanc and A. Weber requested me to see with them the



PLURAL TUBAL PREGNANCY.

e, second embryo ; *t*, ruptured tube and broad ligament ; *o*, ovary ; *f*, fimbriated end of tube.

patient, whose history is as follows : An otherwise healthy woman, 23 years of age, was delivered of a healthy child in January, 1894. Prior to and subsequent to this delivery she was free from any symptom of a gynecological nature. She did not menstruate until December 25th, 1895. This was the only

menstrual flow since her delivery. It was not until June that she noticed any change in her condition, and then she observed that the abdomen was enlarged and that the extremities were edematous.

On September 10th she was seen by Drs. Weber and Le Blanc, who, after a careful examination, diagnosed her true condition. During the night she experienced some uneasiness in the hypogastric region, but the following day she was well enough to attend to her household duties.

At about 1 o'clock in the morning of September 12th she was awakened from a profound sleep by a sharp, agonizing pain in the lower part of abdomen. Her husband narrates that almost immediately afterward she fainted and became bathed in a profuse sweat. Some household remedy being applied, she regained consciousness, but soon swooned again. Her physicians were summoned, and they, appreciating the correct state of affairs, requested my presence.

I found the patient somewhat recovered from the syncope, her pulse still rapid and small, and her surface covered with perspiration. A careful but gently conducted examination discovered the uterus slightly enlarged, pushed to the right, and the entire pelvic cavity filled with a boggy mass, the mass extending into the abdominal space.

The diagnosis of ruptured ectopic pregnancy was concurred in and immediate operation urged.

I had her removed to the Charity Hospital in one of its comfortable ambulances, and immediately on her arrival had her prepared for operation.

Owing to the extreme weakness, a hypodermatic of one-tenth grain strychnia sulphate and ten drops tincture of digitalis was administered. The median cephalic vein was opened, and a little over a half-gallon of normal (six-tenths of one per cent) salt solution at a temperature of 100° F. was infused. This brought the pulse rate down from 160 to 110 per minute.

Operation.—At this I was assisted by the gentlemen named and by Drs. Bloom and Parker of the hospital. A large incision was made in the median line of the abdominal wall until the peritoneum was reached. Beneath this membrane the dark, clotted blood was seen. The moment the peritoneum was cut a foot of the larger fetus presented itself, together with clotted and liquid blood. The fetus was quickly removed, the cord clamped at two points by assistants and cut between the clamps. No time was lost removing blood clots, because the

hemorrhage was appalling. A search with the hand was at once made for the ruptured tube, which, once found, was embraced, at its origin from the uterus, with the fingers and thumb. The bleeding thus controlled, the cavity was partially cleared of clots, etc., when the tube was ligated and removed with the ovary. The abdominal and pelvic cavities were then carefully and thoroughly mopped dry with dry sterilized gauze. The wound was closed with one row of wire sutures. No drainage was used. The other tube and ovary were normal in appearance and were left in place. On examining the sac the second and smaller fetus was found with its individual cord and placenta.

The patient made an uneventful recovery, leaving the hospital September 29th, seventeen days after the operation.

Four days after the operation the breasts became swollen and milk made its appearance. The flow of milk, which became somewhat abundant, disappeared at about the time she left the hospital.

A few days ago (April 9th, 1896) the lady called at my office to inform me that she had menstruated in October, November, and December, but not since.

On examination I discovered the vaginal mucous membrane slightly blue, the os uteri soft and the body enlarged, the fundus projecting above the pubis. In other words, there is now a uterine pregnancy of four months' duration. The Fallopian tube is not enlarged.

Discussion of Case.—The first point of interest in this case is that which relates to the number of pregnancies existing in the same tube.

While it is true that plural gestation in one tube has been observed, I cannot find more than three authentic cases reported in the United States.

The second, third, and fourth points of interest refer to the difference in size and condition of the fetuses—one being large and well formed, the other small and flattened—and to the duration of the amenorrhea.

The question is whether both fetuses were the result of a single conception, or of two conceptions occurring at different times. I believe they were the result of a single conception, the small, shrivelled fetus having been flattened by its growing sister, it becoming a *fetus papyraceus*.

With the exception of the one reported by H. C. Coe in *THE AMERICAN JOURNAL OF OBSTETRICS*, June, 1893, I cannot

find any authentic case of repeated gestation in the same tube. Dr. Coe's case was certainly peculiar. He believes that some time after the first tubal pregnancy occurred there was a migration of an impregnated ovule from the opposite tube across the uterus, through its cavity, into the already pregnant tube. The history and specimen of his case seemed to justify such a theory.

The case I report to you had not menstruated for nine months. The embryo is of the size found at the third month, and the larger is of the size of a six-months fetus. I beg to leave the decision of this point to you.

Features five and six are interesting because the patient had never any sign of disease of the pelvic organs, and because the opposite tube was healthy.

Recent and more careful observations would lead us to understand that in the majority of cases of ectopic pregnancy the opposite tube is healthy. I believe that tubal pregnancy occurs in either healthy tubes or tubes which are only slightly diseased. I cannot well understand how pregnancy can occur in a badly diseased tube.

I have certainly treated, in both hospital and private practice, many hundreds of cases of salpingitis, yet I doubt having seen more than three non-disputable cases of ectopic pregnancy. I do not include hematosalpinx in my estimate, because I do not believe, as some do, that every case of hematosalpinx is one of tubal gestation. Of the hundreds of cases of salpingitis which I have seen a very small percentage were unilateral.

My experience, then, has not been such as to make me expect to find ectopic pregnancy in diseased tubes.

124 BARONNE STREET.

SUDDEN DEATHS IN THE PUERPERIUM, WITH REPORT OF A CASE.¹

BY

WILMER BRINTON, M.D.,

Professor of Obstetrics, Baltimore Medical College.

IN calling the attention of this Society to the causes of sudden deaths in the puerperium, with the report of a case coming under my notice during the past year, I begin the subject with

¹ Read at the meeting of the Gynecological and Obstetrical Society of Baltimore, March 10th, 1896.

a quotation from the "American Text Book of Obstetrics," viz.: "No accident can happen to a woman that carries with it so much horror as sudden death at any period of the puerperium, and no physician, however great his reputation, can escape the criticism which invariably follows even when this accident is absolutely beyond his control. He should always know the causes of rapid or sudden death in the puerperium, and by explaining the utter impossibility in most cases of foreseeing or combating the death he can partially avert unjust and unkind criticism." If a physician has had the opportunity to acquire the proper theoretical knowledge of the science and art of obstetrics, and has had this theory illustrated and strengthened by proper and sufficient clinical experience, he feels competent to pilot his patient through the dangers of parturition. The knowledge he has of antiseptic midwifery, and the every-day application of the same in practice, throws around his patient before, during, and after labor a safeguard of incalculable value. Even the dangers which may arise from such complications as eclampsia, post-partum hemorrhage, contracted pelvis, placenta previa, abnormal presentations and positions, etc., may be warded off by the skill and knowledge of an intelligent and conscientious obstetrician. But the sudden death in the puerperium comes to his patient in such an unexpected and alarming manner that she is, in the great number of cases, absolutely beyond all hope before he can make use of any remedy. I wish in this paper to differentiate rapid or sudden death which may occur immediately or soon after the birth of the child from shock, hemorrhage, rupture of uterus, etc., from the sudden death which occurs in the first, second, or even as late as the fourth week of the puerperium, and my remarks shall be devoted to this class of cases. Sudden deaths occurring late in the puerperium must be comparatively rare. The case I shall record is the only one coming directly under my notice in nearly two thousand labor cases occurring in hospital and private practice, with the exception of being called off of the streets some years ago to see a puerperal woman die just as I entered her bedroom door. The history of the case was that her physician had seen her that morning, and, as it was the tenth day of her lying-in period, he gave her permission to get out of bed later in the day, which she did. She dressed herself in a loose wrapper, nursed her child, and was attending to some minor duties in a sitting position, when in an instant she had great difficulty in breathing, her face became cyanosed,

she had some slight convulsive movements, became unconscious, and died within twenty minutes from the onset of the distressing and alarming symptoms.

There are various causes of this calamity. Without wishing to inflict upon this Society a review of the literature upon the subject. I would say that one of the latest authorities claims the most frequent causes of sudden death in the puerperium, arranged in the order of their relative frequency, are embolism, entrance of air into the uterine veins heart failure due usually to organic heart disease. But deaths have been reported from rupture of the heart due to fatty degeneration or to acute myocarditis. Sudden deaths have occurred from joy, anger, sorrow, fear, etc., the heart action in these cases being interrupted by energetic and persistent excitation of the inhibitory nerves of the heart. A great many of the older authorities insist that primary and spontaneous coagulation of the blood in the pulmonary artery occurs, and this accident is attributed to the excess of fibrin and water in the blood during the puerperium. to hemorrhage, to syncope and the diminished force of the blood current, and to the quality of the blood, changed by effete materials or by sepsis. More recent writers, however, favor the view that embolism usually, if not always, precedes the occurrence of thrombosis, and they support this belief by the uncertainty of the pathologist's knowledge of a primary thrombosis in the right side of the heart and in the pulmonary artery, and by the facts that in about half of the cases a peripheral thrombus has been demonstrated ; that the accident commonly occurs after dislodgment of a peripheral thrombus in either a femoral, an iliac, or a uterine vein following a sudden effort, such as assuming an upright posture, laughing, straining at stool, etc , any of which efforts do not cause thrombosis, but may loosen a thrombus ; and, finally, that thrombosis of the pulmonary artery should occur more frequently, since the asserted predisposing causes are so commonly observed in the puerperium. Playfair, in a series of papers " On Thrombosis and Embolism of the Pulmonary Artery as a Cause of Death in the Puerperal State," which were first published in the London *Lancet* over twenty years ago, claims, from a careful analysis of twenty-five cases of sudden death after delivery in which accurate post-mortem examinations had been made, that cases of spontaneous thrombosis and embolism may be divided from each other by a clear line of demarcation. In seven of these cases there was distinct evi-

dence of embolism, and in these seven cases death occurred at a remote period after delivery, in none before the nineteenth day. This fact Playfair considers contrasts in a most remarkable manner with the cases in which the post-mortem examination afforded no evidence of embolism. These amounted to fifteen out of the twenty-five cases, and in all of them, with one exception, death occurred before the fourteenth day, often on the third or fourth. This would seem to prove that in the first class of cases time is required to admit of degenerative changes taking place in the deposited fibrin leading to separation of an embolus, while in the second class the thrombus corresponds in time, and to a great extent in cause, to the original peripheral thrombosis from which in the former the embolus was derived.

Playfair has more recently added other evidence to prove that in the great majority of cases sudden death in the puerperium is the result of a primary and spontaneous coagulation of the blood in the pulmonary artery. Without denying the possibility of the occurrence of sudden death from a primary and spontaneous coagulation, yet my opinion is that the modern methods of investigation, including accurate and thorough post-mortems, microscopic research, etc., will in the future prove that the larger number of sudden deaths in the puerperium are due to a thrombosis in the uterine, pelvic, or femoral vein. Then from some exciting cause an embolus is detached and, passing to the right heart, is arrested in the pulmonary artery, causing death within a short time.

Another recognized cause of sudden death during the puerperium is the entrance of air into the uterine sinuses. In the literature of the subject a great many cases are found reported where a post mortem proved air embolism in the uterine veins, the result of injections into the birth canal and from other causes. Still, the presence of air in the veins at post-mortem does not prove death from air embolism, for Welch and Nuttall have shown this may originate from a gas-producing bacillus, named by them "*bacillus aerogenes capsulatus*." The symptoms of the ailment under consideration vary. When a large-sized thrombus obstructs the pulmonary artery death may be instantaneous, as in the case I shall report; or in other cases it may be preceded by precordial oppression, extreme dyspnea, cyanosis, the pulse becoming small, rapid, and irregular. In other cases, if the embolus is small, the onset of symptoms is not so sudden and not so severe, although they are similar,

in which cases death may occur after several days, or, very rarely, recovery may occur. In cases of entrance of a large amount of air into the uterine veins, respiration and circulation are immediately and desperately embarrassed. The patient may utter a cry of alarm and at once become unconscious, with or without convulsions. It is supposed in this class of cases that the cause of death is probably mechanical interference with the circulation.

Treatment in many of these cases will be of no avail ; in the two cases which have come under my notice death took place almost instantaneously. If seen in time the patient should be kept absolutely at rest ; stimulants should be given by the mouth and hypodermatically ; carbonate of ammonium in decided doses has been recommended, especially in cases where the patient lingers for some time after the onset of symptoms.

The case which I wish to report is as follows : Julia M., of Mount Savage, Md, was admitted to the Maryland Lying-in Hospital March 8th, 1895, with the history of pregnancy, and giving as the first day of the last menstrual period August 15th, 1894. She was unmarried, a primipara, aged 26, housemaid by occupation, a native of Maryland; family history good, she being one of eleven children, all living, mother living, father dying with acute pleuritis some years previously. The patient began her menstrual life at 14 years of age, and, with the exception of some of the ailments incidental to childhood and a severe attack of grippe four years ago, she never has been sick. A physical examination made upon her entrance into hospital found all of the organs of the body in a good condition. Her pulse, temperature, and respiration were normal. No sugar or albumin was found in the urine. There was slight edema of the lower extremities. The fundus of the uterus was midway between the navel and ensiform cartilage. After remaining in the hospital about six weeks, during which time her physical condition seemed to be fully that of the average woman so far advanced in pregnancy, she began having labor pains at 9 P.M. April 13th, 1895. and was delivered at 10:15 A.M. April 14th. She was attended by our resident physician, Dr. L. G. Taylor, now of Perryville, Md., and four or five students were present. The labor took place under the most rigid antiseptic precautions. The first stage lasted ten hours and thirty minutes ; the second, two hours and thirty minutes ; the third, ten minutes, the placenta being expelled by the Credé method. No tear of the perineum was noted.

The child, a male, presented by the vertex in the left occipito-anterior position. At birth it weighed six and three-quarter pounds and was nineteen and a half inches in length. The lying-in period of the patient was uneventful. In visiting the ward from time to time the resident physician called my attention to the fact that this woman's pulse continued rapid, and several times we interviewed and examined her. Involution was progressing favorably. She had plenty of nourishment for her child. Her lochia were of the proper amount, free from odor. Her temperature, which was taken morning and night, varied from 98° to 100.2° , the general average being 99.4° . The pulse varied from 86 to 106, with a general average of 96 per minute. At no time did she complain of either pelvic pains or pains in her limbs. Indeed, at no time during her puerperium did she complain of one unpleasant symptom. Owing to her rapid pulse we decided that she should not get out of bed on the tenth day, as is the usual custom with our hospital patients if they are doing well. She objected to the delay, but when she was assured that it was for her ultimate good and she would be kept in bed only a few days longer, she assented willingly. On the afternoon of April 24th, 1895, when she was well in her eleventh day, she sat up in bed to nurse her child; at the same time she was conversing with one of the nurses who was in the ward. She continued to nurse the child while the nurse left to go down-stairs to another ward. Within two minutes from this time the nurse was called up-stairs in great haste by a patient who said, "Julia is dying." The house physician was sent for immediately. He found the radial pulse gone, the face cyanosed, great difficulty of breathing. He gave a hypodermatic injection of nitroglycerin, but the woman was dead within five minutes from the onset of the symptoms. It was then ascertained that after the nurse left the room she continued to suckle the child for a minute or so longer, then turned to place it in bed, when she uttered a distressing cry, placed her hand over the region of the heart, fell back in bed, became rapidly unconscious, and was found in this condition a minute later by the nurse and house physician. Owing to her living at a distance from Baltimore, permission could not be obtained to hold a post-mortem. The immediate cause of death is unknown, but from the history of her lying-in period I am of the opinion that the patient died of a primary and spontaneous coagulation of blood in the pulmonary artery.

MYOMECTOMY: FATAL SECONDARY HEMORRHAGE WITH RISING TEMPERATURE.¹

BY

HENRY D. FRY, M.D.,
Washington, D. C.

THE danger of secondary hemorrhage is necessarily associated with all intra-abdominal work where the removal of any organ or portion of organs contained therein is attempted. First in importance, therefore, is the technique employed to prevent primary and secondary bleeding, and in no class of cases is it more applicable than in the operations of hysterectomy and myomectomy.

The extraperitoneal treatment of the stump in hysterectomy gave greater security in this respect, but was early recognized as unsurgical and objectionable. The shrinking of uterine tissue within the grasp of the ligature made the intra-abdominal method unsafe and led to many modifications of technique, until finally the adoption of the rule to ligate the vessels outside of uterine tissue. This improvement does not hold good in myomectomy. Here, too, the pedicle was, and still is often, treated by the extraperitoneal method. Transfixing and tying the pedicle gave bad results, and resort was finally had to excising a V-shaped piece of uterine substance and closing the wound with interrupted sutures.

In spite of the close attention given to the subject, deaths from hemorrhage include a large proportion of the fatal cases. It is now recognized that many deaths occurring soon after operation and attributed to surgical shock are in reality due to internal hemorrhage. When internal bleeding has reached a certain degree, as indicated by pronounced symptoms of loss of blood, the case is considered hopeless. The proper treatment of the complication is clearly defined, and successful interference depends upon prompt action. The importance of early recognition of secondary hemorrhage is therefore clear, and the object of this brief communication is to direct attention to this aspect of the subject, and to report a case where the condition was overlooked, or rather the diagnosis set aside, because

¹ Read before the American Gynecological Society at its twenty-first annual meeting, held at New York, May 26th-28th, 1896.

of the absence of a symptom that was looked upon as essential. The case is briefly as follows:

Miss X. was referred to me by her family physician in the summer of 1895 for operation on account of a solid tumor filling the left side of her pelvis. The growth was the size of a fetal head at term, was hard and freely movable. On opening the abdomen it proved to be, as was supposed, a pediculated fibroid growth. Myomectomy was performed without difficulty and the patient returned to bed in excellent condition.

That afternoon and night her condition was satisfactory, and at 8 A.M. the next morning her pulse and temperature were 76 and 99°, respectively. From this time the rapidity of the heart's action increased and the temperature became elevated until she died twenty-four hours later. The pulse was feeble and ranged from 140 to 150. The temperature at noon the second day was 100.8°; at 8 P.M., 102.2°; at midnight and 4 A.M. the next day, 101.6°; and she died at 7 A.M.

The only other symptoms were epigastric pain and distressed breathing. After death the abdominal wound was reopened and the peritoneal cavity was found filled with blood. The shrinking of uterine tissue within the grasp of the silk ligatures had permitted the gradual escape of blood.

There was no evidence of infection or signs of peritonitis. On the second day after the operation I was apprehensive that some serious complication had arisen. Sepsis and peritonitis were excluded. The existence of secondary hemorrhage was the first thought that came to mind, but was rejected on the ground that the temperature was above normal and slowly rising. The existence of the two conditions could not be reconciled in the absence of any cause for the fever.

Subnormal temperature is expected to follow internal hemorrhage when it occurs to the extent of threatening life. This holds true even when the accident occurs during acute febrile attacks, as for instance in typhoid fever. In the symptomatology of ectopic pregnancy fall of temperature accompanies rupture and bleeding. If arrested before the danger point be reached, slight elevation of temperature occurs from the resultant peritonitis.

In looking over no small amount of literature I fail to obtain much information. Dr. A. H. Buckmaster, a Fellow of this Society, reports a case of death from internal hemorrhage with elevated temperature. He opened the abdomen to remove a thin-walled cyst, dropping the pedicle into the peritoneal cavity

after transfixing and tying. On the day after the operation a slight rise of temperature was attributed to bronchial catarrh. On the second day the pulse was more rapid; on the third it increased still more and the temperature reached 103°. The patient died the next morning. The autopsy revealed the abdominal and pelvic cavities containing a large amount of blood. The rise of temperature was accounted for by commencing peritonitis.

The writer fails to state whether the existence of secondary hemorrhage had been suspected in this case before death, and there is no evidence to show that the fatal termination resulted immediately from hemorrhage.

In the case forming the subject of my paper a slow but continuous bleeding ended fatally in twenty-four hours and was accompanied by rising temperature. The latter symptom prevented that prompt interference which might have saved life, and the autopsy did not reveal any other complication to explain the fever. I offer this brief history with the hope that some light may be thrown upon the subject by the Fellows present.

The questions presented for discussion are: (1) What value can be placed upon the temperature range as an index to the existence of internal hemorrhage? and (2) Does the nature of the hemorrhage influence the temperature differently, *i.e.*, whether it be profuse and quickly fatal, or less free and continuous but slowly fatal?

ANTERIOR COLPOTOMY IN PELVIC DISEASE.¹

BY

J. WESLEY BOVÉE, M.D.,
Washington, D. C.

So much has been said and written of late concerning the evil results of abdominal section that other avenues for reaching pelvic, intraperitoneal disease have been sought.

The objections to abdominal section offered are: the liability to subsequent ventral hernia in the line of the incision; the subsequent ugly scar that occurs in some cases, particularly when the drainage tube is used or when suppuration occurs in the line of the incision or along stitch holes; adhesions of

¹ Read before the Washington Obstetrical and Gynecological Society, February 7th, 1896.

omentum or bowel to the line of incision of the peritoneum ; the handling and exposure of the abdominal viscera, considerable at times, and which endangers the introduction of sepsis and, possibly, bowel paralysis with peritonitis ; the breaking-up of the provisional barrier formed often by the agglutination of intestines, omentum, uterus, bladder, and body wall to limit the extent of invasion of the disease ; and many others of less importance.

Many surgeons have adopted the vaginal route as a substitute for abdominal section for the greatest variety of conditions. I might say that this is to a large extent due to the progress of vaginal hysterectomy for cancer, in which no minor part of the honor belongs to American gynecology. It was Krug and other Americans who demonstrated the very small mortality rate of this operation when done properly and upon suitable cases.

Then the French surgeons began removing uterine fibroids, even intramural and subperitoneal, by the vagina, lauding this method even in cases where the tumors nearly reach the umbilicus. Americans placed this operation upon trial, Polk and other New York men becoming quite enthusiastic over it. Cases of pelvic abscess, pyosalpinx, ovarian abscess, and other kindred pus accumulations have for years been evacuated through the vagina, sometimes with complete relief to the patient.

Then came attempts, often hazardous, at removing suppurating appendages through Douglas' cul-de-sac. This was practised considerably and was followed by the astounding papers of Jacobs and others, who blamed the uterus for all the trouble in pelvic inflammation and that this traitor to pelvic health must be drummed out of camp ; that the uterus must be expelled whether the tubal or ovarian pus sacs were or were not disturbed. They declared the rational treatment of pelvic pus cases was to remove the uterus by vaginal hysterectomy, and that removal of diseased appendages was not necessary ; in fact, simply to drain them through the cavity left by the hysterectomy. This, too, is a French operation that has been adopted by many Americans. Montgomery, Werder, and some New York gentlemen have adopted it, and now Cushing, of Boston, appears on the stage as an enthusiastic player in this drama. No doubt a field for this operation exists, but that it will take the place of abdominal section for the severer pelvic diseases I am not prepared to admit. The operation I wish to

offer for your consideration is a vaginal method of reaching the uterus and appendages, but *not* applicable to the very severe cases. It is known as *anterior colpotomy* and is done as follows: The patient is put in the dorsal position with the feet raised—the Edebohls table being particularly useful for this purpose—the vagina and vulva carefully cleansed, and a Simon speculum introduced. The cervix uteri is grasped by a volsella, drawn down toward the vulva as far as possible, and held by an assistant. With another volsella the anterior wall of the vagina is grasped just under the urethra and made tense by traction on the two volsellæ. An incision beginning at the cervix and extending about an inch toward the urethral orifice is made in the vaginal wall between the volsellæ. Meeting the cervical end of this incision, another is made which curves around the cervix in front and to the sides to the extent of about an inch, thus making two lateral flaps. These are dissected back laterally from the vagina and cervix. The uterus and bladder are now gently separated by the finger, care being necessary to prevent opening the bladder, and the peritoneum opened. The finger may now be introduced through the opening for exploration or other purposes.

I have been closing the wound in the following manner: With catgut or very fine silk suture close the peritoneum first. Then, with coarser silk, catgut, or kangaroo tendon, insert the first suture into one vaginal flap near its urethral end, taking care to not penetrate the vaginal mucous membrane; carry it through the cellular tissue at the base of the bladder, slightly into the body of the uterus on the same side, superficially through the uterus, bringing it out on the opposite side of that organ at a point corresponding to that of its entrance, back through the cellular tissue, and into the other flap at a point opposite to its first insertion. The next suture passes into one flap, half-way from last suture to cervix, through the cervix, and back into the other flap at a point opposite its insertion. Another suture is passed into one flap at junction of incisions near cervix, slightly into that portion of the uterus, and back into the opposite flap. These sutures are now tied, and a more complete closure of the wound is made by a few fine, superficial sutures or by a buried one. The patient is now put to bed and the urine drawn or voided every few hours. If animal sutures are used no further treatment is necessary, and the patients may sit out of bed after twelve to twenty-five days, according to the severity of the condition of the pelvic organs.

I have done the operation but seven times, with seven recoveries, and presume the result would have been the same in these cases had abdominal section been done, but that such section is more dangerous than anterior colpotomy cannot be doubted. The value of any operation cannot be tested by a few applications, but enough has been done to merit the further trial of anterior colpotomy.

The histories of my cases are as follows :

CASE I. *Double Salpingitis.*—Miss S. was admitted to Columbia Hospital October 9th, 1895. She was 23 years old, white; had one abortion in November, 1894, two or three attacks of gonorrhea, and was an inveterate masturbator; had severe cutting pains in both sides of the pelvis, was neurotic, and had profuse and painful menstrual flow. An examination revealed a very capacious vagina, a tender uterus, and small lateral pelvic masses. A few days later curettement was done. This, with other remedies, had not improved her by November 7th, 1895, when by anterior colpotomy the enlarged, inflamed, and adherent tubes were removed with cystic ovaries. She did nicely for a week, when localized pain and fever ensued. This I believe was due to masturbation, as she soon after felt well and has continued so. The Fallopian tubes were examined by Surgeon Walter Reed, U. S. A., Curator Army Medical Museum, who kindly reported that no gonococci were found in them.

CASE II. *Mental Aberration.*—Mrs. R., white, 37 years old, multipara; seen in July, 1895. She was very nervous, begged for free professional service, and gave this history: She had a nice home and children, an indulgent husband, and a devoted mother. Previous to six months ago was a masturbator; was curetted for endometritis two years ago. Two months ago consulted a woman homeopathist of this city and received a severe lecture for masturbating, and was assured insanity would ensue if the practice was at any time resumed. As she had considerable vulvar irritation, she was in constant fear that she would rub or in some other way handle her genitals, masturbate, and become crazy. She visited other physicians, giving the same history and imploring relief from this dreaded future. She had considerable pelvic pain and constipation. *Examination.*—The uterus was normal in size and position; right appendages large and fixed. Later she complained of such a constant irritation in the region of the clitoris that her terror was extreme. Her husband told me that her

fear of insanity from this cause was ever present and that many physicians had advised removal of the ovaries. Tonics and sedatives for six weeks failed to relieve her, and castration was advised as a *dernier ressort*. This was done November 5th, 1895, by anterior colpotomy, and a right cystic ovary with a thickened and degenerated tube was removed. The left atrophied ovary and normal tube were also taken out. Rapid recovery followed and a notable composure has continued since, though she still fears the same result.

CASE III. *Multiple Fibroids and Adherent Appendages*.—Mrs. R., white, widow, 38 years old, was treated by me in Columbia Hospital during the winter of 1894-95 for pain in the right side, probably due to small multiple fibroids and an enlarged uterus. Relief was afforded without operation and she was discharged. In October, 1895, she was admitted to my service in Providence Hospital, and, her complaint being worse, the adherent appendages were removed by anterior colpotomy, after curettement, November 17th, 1895. Her recovery was excellent and her relief complete.

CASE IV. *Uterine Retroflexion with Adhesions and Pyosalpingitis*.—Mrs. N., white, IV para, 28 years old, admitted to Columbia Hospital November 21st, 1895, complaining of severe pain in the back, rectum, and inguinal regions. Her last labor was seven years ago; has had no abortions; cries with pain when bowels move and severe bleeding follows; is an invalid. *Examination*.—Fundus uteri bound down in Douglas' cul-de-sac; a mass was felt on either side; endometritis and a bilaterally lacerated cervix were found; large hemorrhoids and numerous ulcers, quite large, within and without the sphincter ani muscle, were also found. November 25th curettement and trachelorrhaphy were done, and then, by anterior colpotomy, the uterus was freed and the enlarged and adherent appendages, containing pus, were removed. They were nearly unrecognizable. The sphincter ani was then dilated, the hemorrhoids removed, the ulcers excised, and all the raw surfaces covered by means of buried catgut sutures. She made a good recovery, leaving the hospital in three weeks.

CASE V. *Cystic Ovaries and Adherent Appendages with Retroversion of the Uterus*.—B. H., white, widow, 26 years old, was admitted to Columbia Hospital January 20th, 1896, where she had been treated a few months earlier. About one year before, I had done curettement and a trachelorrhaphy on her. She had had two children, the last four years ago after

tedious labor, and two abortions, the last of which occurred five years ago. Complaint, pain in both inguinal regions and back and deficient, irregular, and painful menstruation. An examination revealed a small, retroverted uterus that could be easily replaced but fell back, and enlarged and cystic ovaries that were adherent. The appendages were removed by anterior colpotomy January 23d, 1896, with good result so far as now known.

CASE VI. *Multiple Fibromata Uteri and Adherent, Cystic Ovaries.*—E. C., colored, 29 years old, married, was admitted to Columbia Hospital January 22d, 1896, complaining of pain in lower abdomen and numbness in the vulva; profuse, painful, and almost constant flow. *Examination.*—Uterus the seat of a number of fibroids and the ovaries adherent. By anterior colpotomy, January 27th, the uterus, fully three times its normal size, was carefully examined, its fundus with the appendages brought into the vagina, and hysterectomy found to be advisable. This was done, ligating from top of the broad ligaments downward and leaving considerable of the vaginal portion of the cervix for closure of the wound. The whole of the wound was closed by buried sutures. The ovaries were both cystic and removed. She is doing nicely and will probably fully recover.

CASE VII. *Retroversion and Metritis with Adhesions, and Double Hydrosalpinx with Cystic Ovaries.*—Lucy B., colored, 26 years old, married, was admitted to Columbia Hospital January 16th, 1896, complaining of pain in the back and prolapse of the uterus of two years' standing. Had one child six years ago after normal labor. Three abortions preceded that birth. Menses very profuse and last occurred two weeks before. The examination showed a very large uterus, retroverted and adherent, and appendages enlarged, tender, and fixed. On January 30th, 1896, the uterus was curetted and in its cavity was placed a small strip of iodoform gauze. Then by anterior colpotomy the adhesions to the posterior surface of the uterus were broken and the appendages liberated and removed. The ovaries were both cystic, but I managed to leave nearly half of the left one, stitching over the cut surface. Both tubes, however, were beyond repair, as they were distended by clear fluid, the fimbriæ, after opening that end of each, being unrecognizable. Then by the use of kangaroo tendon the uterus was still further fixed forward to the vagina, after the plan of Mackenrodt and others, except that I used buried suture.

This patient is doing well, although it is too early to say that complete recovery is assured.

This operation is not represented as being an unqualified substitute for abdominal section, even in the treatment of gynecological diseases that are limited to the pelvic cavity. But, recognizing there are disadvantages in abdominal section, as above mentioned, though unwilling to believe they are as important as some would have us think, and knowing that by *anterior colpotomy* they may be avoided, was my reason for employing this method and for bringing it to your attention. Dührssen, of Berlin, is said to have been its originator. August Martin, of that city, began to perform the operation with great success, and published in the *Annals of Gynecology and Pediatrics*, Boston, 1895, lx., 1, an interesting article on the subject, in which he reports one hundred and nine operations with no deaths. Among his cases were seventeen for myomata uteri, two for tubal pregnancy, and forty-nine for uterine adhesions. Dührssen has operated twice and Kossmann once, by this method, for ruptured tubal pregnancy (Martin). Its principal application is in exploration of the intraperitoneal portion of the pelvis, but other conditions, as will be later mentioned, are amenable to treatment by it. Adhesions of the uterus, if not dense, may be easily separated, and an imprisoned uterus held forward by a proper insertion of sutures anteriorly; adherent appendages may be liberated and removed. I have, though with trepidation, removed in this manner tubes containing pus. Mackenrodt, of Berlin, and Vineberg¹ and Wiggin,² of New York, have employed the method for vaginal fixation of the uterus. Vineberg does not consider opening the peritoneal cavity necessary, as he used the method only for vaginal fixation. It is an easy matter to pull the normal uterine body through the opening thus made, and following it will come the normal tubes and ovaries. This can all be done by one index finger, if the tension on the cervix by the tenaculum be relieved. If the uterus be partially fixed posteriorly, gentle traction on a tenaculum forceps, or a volsella fastened into the anterior wall of the fundus, will permit the index finger to be passed over and behind that organ and its liberation effected. Adhesions of the appendages, if slight or moderate, can be easily separated. Tumors having a diameter of two inches or less may be removed through this anterior opening. Particu-

¹ New York Medical Journal, 1894, lx., 516.

² New England Medical Monthly, October, 1895.

larly is this method applicable if the growth be in or upon the anterior wall of the uterus. There is no doubt in my mind but that for malignant disease of the uterus in which the organ is not very much enlarged, hysterectomy can be best performed by this method—pulling the uterus and its appendages into the vagina and thus facilitate ligation and removal of these organs with a large portion of the broad ligaments. In doing this we work from the ovarian artery, near the pelvic wall, toward the uterine artery at the cervix, leaving it until the last to open the cul-de-sac of Douglas. We have in this the advantage of the abdominal method, removal of appendages and a large portion of the broad ligaments, without its disadvantage of conveying the malignant disease up through the peritoneal cavity in removing the diseased tissue. It has the advantage of the vaginal route as well, without some of the disadvantages of that method as usually practised. Martin says: "Myomata may be removed wherever they may be situated—subserous ones simply by excision, after ligating the pedicle; intramural ones through an incision into the anterior uterine wall which has been exposed, even if we have to enter the cavity itself. By morcellement we can in time remove very large tumors, but should avoid those which extend too near the umbilicus. The special advantage of this method is to fix the anterior surface of the uterus to the vaginal wall and so control the bleeding, if any. Should all the uterine tissue capable of function be removed, total extirpation can be carried out at once."

By this safer method we can do more conservative work in dealing with tubal and ovarian troubles. Resecting those organs, emptying tubes containing non-purulent fluids and leaving them, and many other like operations may be done, for the danger is not great, and, if necessary, subsequent operation by the same route or through the abdomen may be done. Free displacements of the uterus or of the appendages are easily treated and relieved in this way, if the suturing to vagina and bladder be modified by the individual case. I would not, however, be understood that it is a simple operation, that can be done as easily as an exploratory laparotomy, for such is not the case. Martin's enthusiasm for the operation exceeds mine, as does his experience. I am not willing to attack large fibroids by this method, nor have I the courage to employ it where much pus is present or where adhesions are severe and involving intestinal loops, or perhaps the vermiform appendix, or the bladder. Nor would I employ it in cases in which drainage

of the cul-de-sac of Douglas would be necessary. With Joseph Price I believe in section and drainage by the abdomen, and will continue to employ them in cases too severe for anterior colpotomy. I have very little faith in treating pelvic pus cases through the vagina, except as a temporary relief from immediate danger to life and when the collections may be easily reached by that route. Nor do I believe the uterus should be usually removed with the appendages when these latter organs are changed into abscesses. I do think, however, that abdominal section and anterior colpotomy are the two best methods of reaching and treating diseases of the periphery of the uterine body and of the appendages. From the foregoing it will be noted that I have endeavored to outline the legitimate field for this new operation. I am much pleased with it thus far, but great care must be exercised in selecting cases for its employment rather than resorting to abdominal section.

1404 H STREET.

SARCOMA OF THE UTERUS.

BY

ANDREW MACPHAIL, B.A., M.D., M.R.C.S. ENG., L.R.C.P. LOND.,
 Professor of Pathology, University of Bishop's College,
 Montreal, Canada.

(With an illustration.)

THE present note deals with a case of sarcoma of the uterus which, in addition to being rather unusual, presented several characteristics which at once called attention to it.

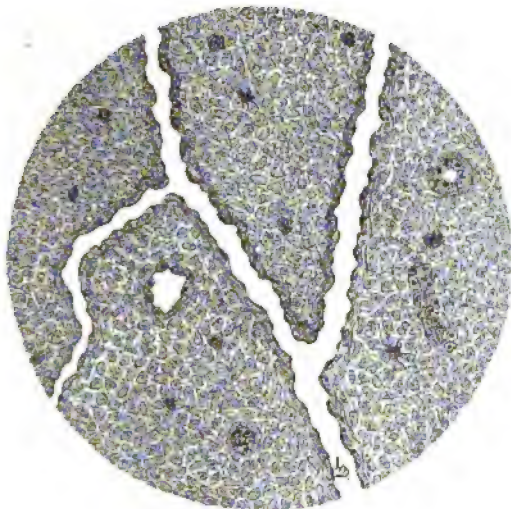
Since the contributions of J. Whitridge Williams to the histology and histogenesis of sarcoma of the uterus in the *AMERICAN JOURNAL OF OBSTETRICS*, 1894, No. 6, this form of tumor has excited more interest. It is stated therein that there are two classes of uterine sarcomata—those which affect the mucosa and those involving the parenchyma, the former occurring as a diffuse infiltration tending to assume a polypoid form; those affecting the wall may also be either diffuse or circumscribed after the manner of a myoma; there is, in addition, the sarcoma botryoides, usually encountered near the cervix, its grape-like form due to dilated cavities; besides the deciduoma malignum, composed of large, epithelioid cells, probably sarcomatous,

and the mixed tumors adeno-, carcino-, chondro-, and osteo-sarcomata.

Pick¹ believes that the malignant characteristics supervene upon a myomatous growth by a transformation of the muscle fibres into sarcomatous cells, and by a development from the vessel walls or the connective tissue of the primary growth.

Warren takes the same view, and Orth reports a combined case of sarcoma, leiomyoma, and rhabdomyoma.

The only specimen in the Army Medical Museum, Washington, is No. 9104, described by Dr. T. C. Smith, *AMERICAN JOURNAL OF OBSTETRICS*, 1893, xxvii., 677-679.



In the present case there was no evidence of such transformation, as the tumor nowhere showed any trace of muscle cells. The accompanying drawing illustrates the condition. The cells are small, round, and spindle-shaped, the matrix very small in amount, the blood vessels abundant, large, and thin-walled. Dr. Bruere confirms the nature of the tumor.

The tumor sprang from the side of the fundus, almost in the form of a cylinder with a uniform circumference of thirty centimetres and a length of twenty centimetres. Around the base were a few small nodules. The tumor was intimately blended with the wall of the uterus in the form of a diffuse infiltration, and manifested itself in the mucous membrane as tumorous shreds. It appears that the site of origin was in the

¹ *Archiv f. Gynäkologie*, Band xlviii., Heft 1.

connective tissue of the uterine walls or in their blood vessels. The tumor was limited by a well-defined capsule, and was free from adhesions with the exception of two veins which were cut at the operation and whose course is uncertain.

Dr. A. Laphorn Smith, who removed the tumor by an abdominal hysterotomy, supplies the following note :

The patient was 40 years old; mother of twelve children, the youngest 18 months old; married at 19. In July, 1895, menstruation was profuse. On examination a polypus, probably sarcomatous, was detected and removed. Six months afterward a tumor was discovered, accompanied by the usual symptoms. Four weeks after the operation the woman returned home free from pain.

Sarcoma of the uterus is reported by Erichsen as being "of very rare occurrence being met with either as a localized sub-mucous growth or still more rarely as a diffuse infiltration of the uterine wall." He makes no mention of those involving the subserous region. Joseph Coats states "this form of tumor is very rare," and Sims Woodhead refers to sarcomata "resembling fibroids except in the fact that they are devoid of any capsule." Gusserow quotes a case in which a round-celled sarcoma the size of a child's head was expelled from the uterine cavity.

It is worthy of remark that the present specimen affords an instance of a form of sarcoma which, arising from fibrous connective tissue, affects not only the mucosa but also the serous and muscular coats of the uterus, such growths being usually limited to one locality.

216 PEEL STREET.

TREATMENT OF DISEASES OF WOMEN BY ABDOMINAL MASSAGE AND ELECTRICITY.

BY

KATE CAMPBELL MEAD, M.D.,
Middletown, Conn.

THE existence of a scientific movement cure was practically disregarded by the medical profession in this country until the present decade. Most physicians considered it more scientific to give a dose of digitalis than a dose of massage to strengthen a faltering heart, or a cathartic rather than abdominal kneading to stimulate intestinal peristalsis. The busy practitioner

has neither time to learn the art of the Swedish movement cure nor time to apply it to the patients who need it. And yet massage, in its many details, is of greater therapeutic value than most of the drugs that are prescribed. There is as much necessity of learning the dosage and reasons for giving it as for giving poisonous chemicals.

We have not yet reached the position in which we can say that one gramme of any substance will cure a certain amount of disease, nor will the time ever come when the personal equation will be eliminated so that specific remedies will give immunity from all pathogenic bacteria. Nor, on the other hand, will massage and electricity be suited to all cases; but if given with scientific and accurate dosage these two remedies, alone or, in certain cases, in combination with drugs, will effect cures more surely than any other mode of treatment. If properly applied by thoroughly qualified medical graduates, massage and electricity in gynecology may obviate the necessity of tampons and pessaries, and often of the surgeon's knife.

Uterine massage, commonly known as the "Brandt massage," was first used by Major Thure Brandt, a native of Stockholm, in 1860. He was a major in the Swedish army, a man thoroughly trained in the Swedish movement cure, and a student of physiology. He had employed massage for the cure of prolapsus recti in some of his soldiers, and it seemed to him that the same methods would cure prolapsus uteri, which was common among the hard-working Swedish peasant women.

The medical profession was slow to take up a new treatment invented by a layman, although Major Brandt was a skilful gynecologist and was by no means a quack or a charlatan. The Swedish physicians recognized the value of the treatment many years before Brandt's fame reached the great hospitals of the Continent; and it was as a sceptic that Prof. Paul Profanter, of Vienna, in 1888 went to Stockholm to see Brandt and to study his methods of cure for prolapsus uteri and other malpositions. Immediately he became convinced that Brandt was a skilful diagnostician and that his treatment was destined to play an important rôle in the cure of certain affections of the pelvis. Accordingly he wrote to his friend Prof. Schultze, of Jena, one of the most famous gynecologists of Europe, asking him to allow Major Brandt, along with an assistant and himself, to have charge of a certain number of cases in the hospital at Jena in which the Brandt treatment could be demonstrated. They were given sixteen cases of para- and perimetritis, ovaritis,

retroversions, prolapsus, and procidentia uteri, which they treated during eight weeks, obtaining a complete cure in almost every case. Prof. Schultze and Prof. Profanter have since then written several monographs in praise of the Brandt treatment.

To give this treatment it is necessary to have a couch, a chair, and in some cases a trained assistant. The patient reclines, half-sitting, on the couch, with her knees drawn up so as to relax the abdominal muscles as much as possible. The operator sits at the left of the patient, with his right hand on her abdomen close to the symphysis, and his left index finger in the vagina pressing the uterus toward the outer hand, which gives a circular, deep friction over the fundus of the uterus.

This external massage is continued for about five minutes, and then is alternated with sacral percussion, which stimulates the pelvic nerves.

In the treatment of complete prolapsus it is necessary to have a competent assistant, who replaces the uterus and with his finger in the vagina presses the uterus upward until it is grasped in both hands of the operator and slowly pulled up into the abdomen until its ligaments are stretched as far as possible, when it is allowed to glide gently back against the assistant's finger. This process is repeated several times, and is stopped whenever it causes the patient pain.

Active exercises are then given, such as knee resistance and hip rotations, to strengthen the muscles of the pelvic floor and the muscles of the thigh. Frequently sacral percussion and abdominal vibrations precede the internal treatment.

The duration of treatment for the cure of prolapsus uteri varies from four to eight weeks, daily. If the perineum is not complete, or if the vagina has been dilated by pessaries until it has lost tone, the injuries must first be repaired.

It may be noted that massage given according to this method is based upon physiological laws. It restores tone to the muscles, it destroys abnormal adhesions, it strengthens the perineum and re-establishes pelvic circulation.

Brandt and his many medical pupils have used this treatment successfully in the treatment of thousands of cases of prolapse of the rectum and bladder and ovaries, menorrhagia due to relaxed uterus, subacute inflammatory conditions of any of the pelvic tissues, and any malpositions of the pelvic organs.

The treatment is very fatiguing to the operator, and if too long continued causes a sort of shaking palsy. Brandt himself lost the delicate use of his own right hand several years

ago when he was treating forty or more patients every day. According to Roth,¹ Brandt had treated more than three thousand cases successfully up to 1880. His pupils are medical men and women from all over Europe, and the most eminent gynecologists are his warmest supporters. The only opponents of the treatment are those who read the descriptions of the manipulations very carelessly and who take no pains to inform themselves accurately as to its methods or effects, and who cling to pessaries, tampons, and knives, which they have been taught to use in the medical schools—a treatment less fatiguing to the operator and requiring shorter visits, though seldom curative.

I studied with Major Brandt in Stockholm in 1890, and found, as every one who has studied with him has found, that he is most painstaking and exact in diagnosis and very thorough and careful in his treatment. He was limiting himself to twenty-five patients a day at that time, giving others to his assistants, of whom one or two were medical men acting under Major Brandt's supervision. These patients were mostly chronic invalids from all over the world, who had been treated for years at sanitariums and by local and special physicians with the usual methods, and who were finally cured by uterine massage and by giving Nature a chance. Major Brandt is by no means a quack, and he is always glad to welcome trained physicians to his clinics and to give them instruction not only in this form of massage but in diagnosis, so that his "touch course" alone is equal to that at the great hospital in Vienna. His accuracy in diagnosis has made him a rival of Apostoli in Paris, where medical students frequently go for a course in uterine electricity; and nothing seems to satisfy Apostoli better than to find one of Brandt's pupils making an error in diagnosis.

There are cases in which it seems unwise to give internal massage, and for such Dr. Taylor, of New York, and Roth, of London, added active movements to those of Brandt, which by position and exercise restore tone to the uterine supports. To give these movements with greater accuracy, Dr. Gustaf Zander, in Stockholm, invented a set of most remarkable machines, which are worked by the patient herself or by steam, and which are so carefully adjustable with weights and levers as to do away with the skilled masseur, excepting where internal treatment is required.² For the treatment of pelvic diseases alone

¹ "The Brandt Treatment of Uterine Diseases and Prolapsus," by Dr. Roth. London, 1882.

² There is a complete Zander Institute in New York, corner of Fifth

there are eight elaborate machines. One of these gives sacral percussion, which produces the same effect as "pugnal percussion" by a masseur—viz., improvement in the blood and lymph circulation, augmentation of absorption, and toning of the muscles and ligaments of the pelvis.

Another machine¹ gives passive pelvis-lifting, with the patient lying on the machine, face down. Beneath her pelvis a cushioned block rises, lifting the pelvis slowly, and as slowly descending. This machine alone has replaced retroverted uteri that were not bound down by adhesions, and has cured cases of menorrhagia by improving the circulation in the glutei and muscles of the hip.

There are also machines for active leg adduction. They are much used in cases of amenorrhea, for regulating uterine congestion; one of these machines is arranged to give the exercise in the recumbent posture, the other is used sitting.

Two vibration machines are used. One is for local treatment of any single set of nerves. The other gives general vibration in the horseback-riding position. This form of vibration is much more delicate, rapid, and regular than can be given by a human masseur. Through its action on the solar and ovarian plexuses it lessens ovarian congestion and relieves dysmenorrhea and pelvic neuralgias.

Cases of metritis and inflammatory conditions of the adnexa must be treated without machines.

Dr. Zander has been inventing, perfecting, and testing these machines during thirty years, constantly adding to their number and teaching physicians from all over the world their uses. He says² from experience that muscular exercises are curative for the female not less than for the male, the only difference being one of degree in the amount of exercise taken. This degree can be very accurately adjusted by the levers and weights of the Zander machines. Each group of muscles has its special apparatus, and the physician at the head of the Zander Institute must regulate for each patient the amount of

avenue and 28th street, equipped with the seventy or more machines which Dr. Zander invented for the treatment of all muscular and nervous troubles.

¹ For a description of the Zander machines see "Mechanico-therapeutics and Orthopedics by Means of Apparatus," by Dr. Gustaf Zander, New York, 1891; also "Dr. G. Zander's Medico-mechanische Gymnastik," by Levertin, 1892.

² "Bewegungskuren mittelst Swedischer Heilgymnastik und Massage," von Dr. Hermann Nebel, in Frankfort-a.-M., 1889.

work needed by each set of muscles, and he must prescribe accurately the special exercises, active or passive, needed for the definite cure of the disorder for which treatment is required.

There are now Zander Institutes in all the health resorts and large cities of Europe, one in America with incomplete sets in two or three institutions, and one or two in South America and Australia.

It would be unfair, in discussing this subject, to leave untouched the reflex neuroses from which women suffer, causing constipation and dyspepsia, and their treatment by massage.

The technique of massage of the stomach is as follows:¹ The patient lies in the dorsal position, with her knees drawn up to relax the abdomen. The masseur kneads the stomach from cardiac to pyloric orifice as deeply as possible. The patient is then turned to the right side, making the stomach dependent and easily grasped by the masseur with both hands. It is then given a thorough kneading, patting, pinching, and stroking in all directions. The muscle fibres of the stomach are circular, and, provided these muscles are healthy, Nature will attend to the direction that the food passes. This treatment shortens digestion by an hour or more, and after half a dozen treatments the patient is able to digest and assimilate food, provided that the cause of the dyspepsia has been removed. Each treatment requires about fifteen minutes and should be given two hours after a meal.

A somewhat similar process is employed for the cure of chronic constipation. Douglas Graham² and Baron Posse in Boston, Nörstrom in New York, and many other authorities give numerous cases in which constipation of years' duration has been cured in a few weeks by massage alone.

The technique of sacral percussion as given by Baron Posse³ is as follows: The patient stands facing the wall, with her hands resting against the wall at arm's length. Her feet are separated and toes turned in, so as to make the glutei as tense as possible. The masseur stands at the left of the patient, with his left arm around the patient's waist, while with the front of his lightly-clenched fist he strikes short and springy blows on

¹ Medical Record, March 7th, 1896. Nörstrom: "Technique of Massage of the Stomach."

² Douglas Graham: "Recent Developments in Massage," St. Louis Medical and Surgical Journal, July, 1890.

³ Posse: "Medical Gymnastics," 1894.

the gluteal muscles from the base of the sacrum to the coccyx and radially down the glutei. The blows are gentle over the bone, but increase in force over the muscle. The contents of the pelvis are put into vibration, the irritability of the nerves supplying the viscera diminishes, pelvic veins and capillaries contract, determining a more rapid return current, and the tonicity of the entire pelvic contents is heightened. This percussion is therefore useful in all disorders where there is pelvic hyperemia, such as uterine and ovarian diseases, constipation, hemorrhoids, and chronic cystitis. The mental effect of the blows is as good as the effect of spanking to a naughty child.

Dr. Zander's machines give sacral and body percussion more evenly than it can be given by a masseur for any continued length of time.

The technique of abdominal vibration is the following : The patient reclines with knees drawn up and feet resting. The operator stands by the side of the patient, placing his (nearest) hand on her abdomen. This hand is hollowed, and with a vibratory, saw-like motion it presses with its ulnar and radial borders alternately, passing over the whole abdomen very rapidly. During brief pauses deep kneading of the abdomen is given. This treatment induces peristalsis and affords great relief in flatulency and atonic dyspepsia.

In the technique of massage vibration forms one of the most helpful movements, and in the hands of a skilled masseur it is productive of extraordinary results. It is, however, very tiresome for the operator, who is in fact unable to give it for more than a few minutes continuously, and it is this very vibratory motion which has caused almost a palsy in Thure Brandt's right hand. Dr. Zander's vibration machines are very useful in saving the masseur fatigue, and at the same time they can be so carefully adjusted as to give vibrations of almost any rapidity.¹ Dr. Zander's machine for giving abdominal kneading is as good or better than a masseur, because it is never weary ; it may be used alone or in combination with one of the vibration machines, and cures many cases which years of medicines have been unable to cure.

A hand vibrator for the cure of neuralgias and catarrhal conditions of mucous membranes is now being used extensively abroad. These vibrators are set in motion by ordinary Leclanché electric cells. Gaiffe, in Paris, makes two sizes, one for

¹ "Die Erschütterung in der Zander'schen Heilgymnastik, etc.," von Dr. Karl Hasebroek, Hamburg, 1890.

giving coarse vibrations, which is used exclusively for abdominal disorders, and the other finer for use in neuralgias and catarrhs of the face and throat. Reports from Paris, Sweden, the health resorts of the Tyrol and Switzerland, as to the effects of abdominal vibrations given by the electric vibrator, are all in praise of this instrument, which is both convenient and inexpensive.

With the Apostoli treatment of uterine diseases by electricity this article is not concerned, yet I cannot but express the opinion, in passing, that the failures which have brought discredit on the method were failures through ignorance of the kind of a case suitable for galvanism and of the proper electrodes and strength of current to be used. It is certainly true that in electricity as well as in massage we have most powerful remedial agents for the cure of diseases of women, and these two modes of treatment should be taught in the medical schools of this country.

TRANSACTIONS OF THE SECTION ON GYNECOLOGY, COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of April 16th, 1896.

B. C. HIRST, M.D., *in the Chair.*

Dr. B. C. HIRST read a paper on

BACTERIOLOGY OF THE VAGINA,¹

and reported

THREE CASES OF PUERPERAL TETANUS.

In the past three weeks I have encountered the most distressing experience that has ever befallen me in my hospital work. In that brief space of time I have seen three fatal cases of puerperal tetanus in the University Maternity. On a rigid investigation of the causes of this dreadful epidemic, every item in the aseptic technique seemed beyond criticism except one. The hands of attendants are cleaned by tincture of green soap, alcohol, and bichloride solutions—a fifteen-minute process. All dressings, etc., that come in contact with the patient are sterilized in a steam chamber under pressure at 240° F. Each woman has a room to herself, well ventilated and isolated from the rest of the hospital. The external genitalia are scrubbed

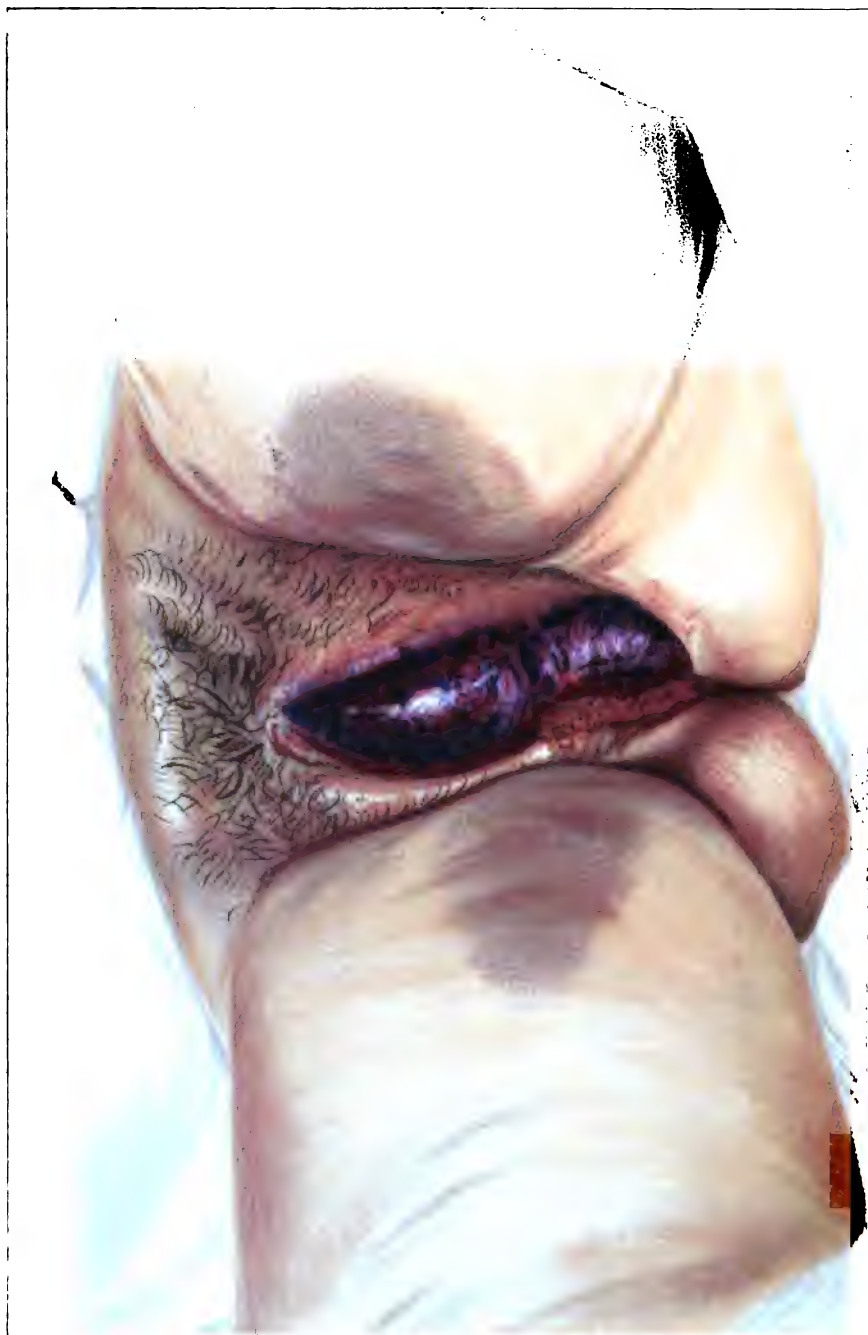
¹ See original article, p. 11.

with tincture of green soap and water when labor begins. The only weak point in our system that I could discover was the fact that the water used for washing and douching the patients is not boiled or filtered. The head nurse had trusted to chemical disinfectants—bichloride of mercury and creolin—to purify it. At the suggestion of Dr. H. C. Wood the water from the tap is being investigated by his son, Dr. George Wood. The inoculation experiments so far tend to confirm our suspicion. The ultimate results, with full studies of the cases—clinically, pathologically, bacteriologically—will be published by Dr. Wood.

In addition to the three cases in the Maternity, I know myself of three others that occurred in Philadelphia after confinement and gynecological operation during the same time. As the usual number of tetanus cases in this city a year is about thirty-five to forty, six in three weeks, even if there were no more, is almost treble the average, showing the probability of a cause at work throughout the city. It was a time when the water was more than usually turbid owing to freshets in the Schuylkill Valley. The important lesson to be learned from this experience is that the water used to douche and wash puerperæ should be boiled, at least, if not filtered or distilled. Even bichloride of mercury will not surely kill tetanus germs during the length of time that a douche is allowed to stand before being administered. Since we have received our sharp lesson a complete plant for the filtration and sterilization of water (Sprague-Schuyler) has been installed.

CONVULSIONS FROM INTESTINAL TOXEMIA IN THE PUERPERIUM.

I was called in consultation by my friend Dr. Walter Pennock to see a young woman delivered a week before. I found that she had just had two violent convulsions. She was comatose, her face was swollen, her pulse so rapid and feeble that it could not well be counted, her temperature was elevated. I concluded naturally that the case was one of kidney failure. On drawing the water, however, and boiling it in a spoon over a gas flame, there was no albumin. The quantity of urine in the bladder was not large, so that there was no vesical distension. A careful vaginal examination showed every organ in the pelvis to be normal. Believing the bowels to be at fault, and learning that there had been no movement for two days, a concentrated solution of Epsom salts was ordered, in two-drachm doses repeated every half-hour. After six or eight doses there were a half-dozen profuse, watery evacuations, and then an enormous solid movement, filling the bedpan with material that had been lodged somewhere along the intestinal tract. Immediate improvement followed, and the patient has been at no time since seriously ill, though her convalescence is protracted and her strength returns slowly. At no time in the whole history of the case has there been a single symptom pointing to infection of the genital tract.



HEMATOMA OF VULVA - HIRST.

HEMATOMA OF THE VULVA.

I do not know of a good illustration of a large hematoma of the vulva after labor. The colored plate presented herewith shows the condition perfectly. The labor was obstructed by a slight contraction of the pelvis and an overgrown child. After futile attempts to engage the head with axis-traction forceps, version was successfully performed. The hematoma appeared shortly afterward. The woman made an afebrile convalescence, the hematoma being entirely absorbed in spite of its large size.

PSEUDOCYESIS.

I have seen many remarkable examples of spurious pregnancy and have witnessed many ludicrous mistakes in the diagnosis of pregnancy in these cases, but I do not remember even seeing a non-pregnant woman whose appearance so strongly suggested pregnancy at term as did that of the individual whose photograph I present herewith. Even under chloroform the abdominal distension was unaltered and it was extremely difficult to practise bimanual examination. By a little persistence and steady pressure it was soon apparent, however, that the womb was not pregnant, was of normal size, freely movable, in good position. The woman had had an attack of peritonitis eight months before, and ever since had steadily increased in size. Her abdominal distension was due solely to tympany. She had been admitted to the obstetrical wards of the Philadelphia Hospital as eight months pregnant, after a physical examination by a physician. It might be thought that all difficulty in the diagnosis should have disappeared on ob-



Pseudocyesis.

taining by percussion a resonant note all over the lower abdomen, but I have seen a case in which the pregnant womb at term was completely masked by overlapping distended intestines. This woman was discharged from a maternity hospital on the ground that she was not pregnant. She was delivered a few days later under my care.

DR. RICHARD C. NORRIS.—I have been especially interested in the paper on "Bacteriology of the Vagina" read by Dr. Hirst. I have followed in my reading some of this work done abroad as well as that which has been done in this country, and it has made me very anxious, working as I do in obstetrics, as to whether my own course of action with the ante-partum and post-partum douche was in keeping with the advance of the times.

On the one hand there seems to be, even among the bacteriologists, some slight difference of opinion as to the character, the variety, and the virulence of the micro-organisms found in the vagina; and on the other hand there are records in some institutions in this country and abroad where vaginal douches have been relied upon with good results. In the work at Preston Retreat, which of course comes nearest to me, I find that since the institution by Dr. Goodell of the ante-partum and post-partum antiseptic vaginal douche, that plan has been followed out uninterruptedly and there has been a series of almost two thousand cases without a death from sepsis; and I can speak for my own past two years' experience in favor of this method with no death from sepsis and with a morbidity of 8.2 per cent. which I am aware is not quite as good as has been obtained by some of those working abroad who have omitted the vaginal douches. Nevertheless my own results have been so satisfactory that I am fearful of making a change.

If the natural secretions are relied upon to flush out the mucous membrane of the vagina and to wash away micro-organisms, surely a clean vaginal douche will do the same thing and will do it more efficiently. Again, if we are to encounter micro-organisms once in a while, no case will take us unawares if we have every case washed in a cleanly way with water sterilized by boiling (which is the custom in my own hospital) and to which a properly prepared antiseptic has been added. We should not overlook the mechanical effect of the douche. I have been using tartaric acid in combination with bichloride of mercury, which combination is supposed to have a less injurious effect upon the tissues than ordinary bichloride solution, and which renders the bichloride more efficient by preventing the formation of an insoluble albuminate of mercury. Up to the present time my clinical experience overcomes my anxiety of not doing my whole duty in this matter of a single clean ante-partum and post-partum douche. I have no doubt if I should meet with a death from sepsis I would think of the vaginal douche as the probable cause and then perhaps would discontinue it. This question is one of the greatest importance

to all of us. It is interesting both from the bacteriological and clinical side, and the closer we study this question the better it will be for practical obstetrics. I think the internal scrubbing and excessive manipulation are to be avoided. The time will doubtless come when obstetricians will do away with the meddlesome antiseptic methods which in the past have been employed. Some of the methods have been too elaborate, and perhaps have been carried out with so many details that the dangers of infection have thereby been increased. As pointed out in the paper to-night, one of these observers has found the entrance to the vagina the region where micro-organisms are most likely to be found, therefore special attention should be paid to this region. This I direct to be done in my own work. The external genitals and introitus are thoroughly scrubbed with soap and water and bichloride solution; the vaginal canal receives only a careful and copious irrigation. I shall hold on to douching until my experience shows that it does harm. In private practice, unless the nurse is well known to me, I omit all douches in normal cases.

The case of pseudocyesis is also of interest. I have met with one case in the past two years; the patient came into the hospital and was a resident there about two weeks when my attention was called to her. I made a careful examination and found the uterus not enlarged, and convinced the woman that she was not pregnant. She was then discharged.

I have also seen one case of hematoma of the vulva, but not so extensive as the one which has been illustrated and described to-night. It came on following a forceps operation and disappeared without any special treatment.

The case of intestinal toxemia is of especial interest to me, because I had one patient who developed a temperature on the third or fourth day following labor. A careful examination of the woman found nothing to account for it. She was an inmate of the hospital some two weeks prior to delivery and had regular bowel movements; a stool occurred the second day after labor. I was led, however, to make a vaginal examination in following out the study of her case, and was very much surprised to find a fecal mass impacted high in the rectum that required vigorous application of purgative medicine and the spoon to finally completely evacuate the woman's bowels. After she had passed enormous quantities of very offensive fecal matter her temperature fell to normal. Such cases should make us bear in mind that impaction of feces may occur in a pregnant woman and remain with her several days after her delivery, even though her bowels have moved regularly prior to labor.

DR. R. H. HAMILL.—I think Dr. Hirst deserves a vote of thanks for bringing the subject of his first paper before us. I am very much of the opinion he expresses in regard to douching. In the Maternity Hospital I have not been in the habit of using any douches whatever. I simply treat the vagina by making it aseptic by means of scrubbing, etc., as he suggests,

and then do away entirely with the douching. I was not led to do this for the reasons suggested in the doctor's paper, but from the fact that we had an epidemic of ophthalmia which was supposed might be due to ante-partum injections of bichloride, and for that reason I stopped them, and I found that the morbidity was as low as when they were used in all cases, and now for the past two years I have not used douches, either ante- or post-partum. I am speaking of normal cases.

In relation to the case of intestinal toxemia, the doctor had spoken to me on a previous occasion of this case, and, curiously enough, very shortly afterward my attention was called to a case exactly similar to his, except that it followed an operative procedure and was in a male. This man had, as I remember, two or three very violent convulsions, and they were caused entirely by the stoppage of the bowels. I think we have all seen more or less disturbance from this condition. I can recall distinctly a number of cases after operation where I have had a rise of temperature, and this has continued until I have been able to get the bowels freely opened.

DR. DAVID LONGAKER.—I had the misfortune of not hearing the paper and I know very little of the subject from a bacteriological standpoint. My knowledge of the bacteriology of the vagina is largely clinical, and my practice with regard to douching may appear at first sight a little contradictory, and yet the results of my plan are very satisfactory.

In the first place, the plan followed with simple cases of labor—that is, normal cases—the method of antisepsis is purely subjective, scrubbing of the hands and cleansing of thighs and external genitalia and the use of sublimate solution. In operative cases—and that is where the contradictory statement appears to come in—there I practise a very thorough objective method of antisepsis, including in this plan the scrubbing of the external genitalia and the scrubbing of the vagina, with copious douches. During the last two years this plan has been followed, and I have done quite a large number of operations with practically no morbidity. There have been in round numbers, I should think, some fifteen versions and some thirty-five forceps operations. The normal cases of labor are examined per vaginam just as little as possible, and there also is no morbidity. Neither ante- nor post-partum douches are used.

DR. R. H. HAMILL.—I would like to ask Dr. Hirst, in relation to his cases of tetanus, as to whether or not antitoxin was employed in connection with the treatment.

DR. G. M. BOYD.—I have enjoyed Dr. Hirst's paper very much. While I must say I have made no bacteriological research, yet I enjoyed the contribution from the clinical standpoint. It does not seem to me that we differ very greatly in our ideas regarding douching. One recommends cleansing the birth canal by scrubbing freely with soap and water, and another speaks of douching. I think we cannot say that one is better than the other. It seems to me we all agree on the

point that if the birth canal is infected it remains to make it as clean as possible for delivery, and if we have any evidence of infection to carry out post-partum douching. I do not think we lay enough stress upon the fact that very many of our mild forms of infection are wound infection—infection in the lower part of the canal this side of the cervix. Carrying a douche into the uterus in these cases is useless.

It is our custom at the Lying-in Charity to give all patients an ante-partum bichloride douche, and, where operative interference is essential, to add a careful scrubbing with soap and water, with free irrigation, especially of the introitus and lower portion of birth canal. We have carried out the ante-partum douche as a prophylaxis against epidemics of ophthalmia which will develop in every maternity at times, and I feel that for this purpose alone it is wisdom to indorse the ante-partum douche. Unless we can feel sure we have a healthy canal and a clean one, it seems to me it should be used in every case.

I have been interested in the report of spurious pregnancies. Upon more than one occasion a patient has presented herself for examination and admission and I have found on examination for pregnancy no signs of it existing.

DR. HIRST.—In reply to Dr. Hamill's question I would say that I purposely omitted a description of the treatment of the cases of tetanus, because I expect Dr. Wood to publish a full report of the bacteriological study and clinical features of the cases. I will say, however, that we did not use the antitoxin against tetanus, although this was carefully considered. I had Dr. H. C. Wood in consultation to see all three cases. He offered to lend me some of the antitoxin prepared in this country, but told me that he was sure that in one case in which he had seen the antitoxin used it had killed the patient. I telegraphed to New York for Catani's preparation, which is said to be perfectly reliable and very effective, but I could not obtain any. It is manufactured, I believe, near Bologna, and could not have reached us in less than two or three weeks after receipt of cablegram, and when we received it our patients would have been dead. We contented ourselves with enormous doses of bromide and chloral, but had soon to drop the chloral because the patients' hearts could not endure it. We gave the last case a drachm of potassium every hour, three ounces a day. We tried to cut down the dose, but convulsions reappeared immediately. We stimulated the heart as much as possible, and also gave some eserine hypodermatically. The tetanus was of the most virulent type. Curiously enough, the first case was mistaken for one of hysteria by a neurologist who saw it in consultation. This might seem to be an unaccountable mistake. To-day, however, I was consulted as an expert witness in a case on trial in court in which the same error was made in diagnosis, and I have since heard of two similar mistakes.

DR. C. B. PENROSE reported a case of

EDEMATOUS FIBROID OF THE LABIUM.

Tumors of the labia are of such unusual occurrence that I have thought the report of the following case would be of interest to the Section.

The patient was a white woman, 41 years of age, who had had two children, the last eight years ago. Six months after the birth of the last child a hard nodule appeared in the edge of the right labium. This gradually increased in size and dragged out the labium into a pedicle, so that when she came under my observation she presented this pear-shaped, peduncu-



lated tumor, which reached almost to the knee, a distance of ten inches from the vulva. The tumor was about the size of an adult's fist, surrounded by loose, wrinkled skin, and upon palpation gave the sensation which is characteristic of an edematous fibroid tumor. It was light pink in color. Three medium-sized veins could be seen traversing the pedicle, and one artery, about the size of the radial, could be felt pulsating in the centre of the pedicle.

The tumor had caused no annoyance whatever, except from the fact that during every menstrual period it became much larger, increasing to twice its present size, so that the cutaneous covering became tense. This woman, restrained by false modesty, never sought medical advice for the relief of this condition until about two weeks before I saw her, when she con-

sulted Dr. Greenleaf, of Wilmington, Delaware, who sent her immediately to me at the University Hospital

The growth was readily removed, it being necessary to ligate only the central artery. The accompanying illustration shows the appearance and position of this tumor when the woman was upon her back.

I append a microscopical report made for me by Dr. Beyea: "Microscopical examination of a portion of tissue taken from the centre of this tumor shows it to be a soft and edematous fibroma undergoing myxomatous degeneration. It is richly supplied with blood vessels."

TRANSACTIONS OF THE WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

Stated Meeting, Friday, February 7th, 1896.

Vice-President SAMUEL S. ADAMS, M.D., *in the Chair.*

DR. I. S. STONE presented three specimens of

TUBES AND OVARIES DISTENDED WITH PUS.

One of the three contained a large hydatid cyst of Morgagni containing more than half an ounce of fluid.

These specimens were exhibited to show how quite large collections of pus may be removed without rupture of the pus sac. Clamp forceps are applied at the uterine cornua and on the ovarian ligament, including the ovarian artery. Section of the broad ligament and Fallopian tube then gives room to enucleate the distended organs without rupture. The ovarian and utero-ovarian arteries are tied separately. The uterine cornu is excised liberally, and sutured carefully with silk, preventing any important oozing, and ligatures are free from the possibility of infection. The hands, instruments, silk, besides the peritoneum and whole field of operation, are preserved from contamination with pus.

DR. J. WESLEY BOVÉE presented the specimens and gave the histories of a

SUBMUCOUS FIBROID

removed through the vagina, and a

FIBROID UTERUS

removed by vaginal hysterectomy and anterior colpotomy.

The first case was about 45 years old and had had four children. For the past few years she had noticed a large, smooth, hard mass in the lower part of her right side, which gave her no annoyance, except occasional sharp pains. About a year

ago, however, her menses became more profuse and gradually assumed the type of severe hemorrhages lasting two to three weeks and accompanied by very severe pains. An examination showed the uterus to be considerably enlarged and the cervix dilated by a fibroid tumor. She was sent to Providence Hospital and the tumor removed under ether. It proved to be a submucous fibroid weighing about two pounds. The patient made a speedy recovery and is at her home. This was the fourth case of the kind he had operated on during the past few weeks, some of the tumors weighing nearly five pounds and one being complicated with the puerperium. All recovered.

The second case demonstrated the advantage of anterior colpotomy in connection with vaginal hysterectomy for such cases. The uterus was removed after the condition of the fundus and appendages had been demonstrated by anterior colpotomy. It also showed that tumors of considerable size can be removed through this opening between the uterus and bladder.

DR. H. L. E. JOHNSON asked Dr. Stone how he treated the uterine end of the pus tube.

DR. I. S. STONE said he tied the ovarian artery, including the tube, near the horn of the uterus.

DR. H. L. E. JOHNSON said ligation was not sufficient. He thought the end of the tube should be cauterized or carbolic acid applied to prevent infection.

DR. J. WESLEY BOVÉE said his method of treating these cases was first to curette the uterus up into the cornua, to get rid of all infectious tissue, and then to remove the pus tubes.

DR. J. WESLEY BOVÉE read a paper entitled

ANTERIOR COLPOTOMY IN PELVIC DISEASE.¹

DR. W. S. BOWEN, in opening the discussion, said Dr. Bovée had presented a comparatively new operation which had the advantage of little hemorrhage and an absence of hernias. From cases reported by Martin and others there were few deaths. Another advantage was speedy convalescence.

DR. WILLIAM P. CARR said that in the consideration of the advantages of the different methods of operation the character of the cases should be borne in mind.

DR. I. S. STONE said explorations are so often necessary that they should be such as to avoid scar, if possible. As a rule we should not operate by anterior colpotomy for pus tubes. Posterior section gives a better operative field. In operations through the vagina there was more liability to sepsis, though the shock was less.

DR. JOSEPH TABER JOHNSON was sure of certain advantages in the operation, because there was less shock and less danger of ventral hernia. But large tumors cannot be removed in that way. Drainage was very necessary in these cases.

DR. J. WESLEY BOVÉE did not consider the vagina a good channel through which to drain; it was a treacherous route.

¹ See original article, p. 48.

It was perfectly easy to close the entire surface by continuous suture.

DR. H. L. E. JOHNSON reported a case of

MYOMECTOMY WITH REMOVAL OF DISEASED OVARIES AND TUBES.

DR. W. P. CARR asked Dr. Johnson why he had removed the ovaries in his case, and stated as his reason for making the inquiry that about six months before he had presented a similar case to the Society, in which he had removed the tubes and ovaries by about the same operation. He was then much criticised for what he had done. He was satisfied that where tubes and ovaries were thoroughly removed some small fibroid tumors would atrophy.

DR. H. D. FRY said the removal of the tubes and ovaries was sometimes necessary; but the case referred to by Dr. Carr was for small tumors.

DR. H. L. E. JOHNSON said the tubes and ovaries were diseased and were removed for that cause, and also in the belief that it would cause atrophy of the uterus.

**TRANSACTIONS OF THE CINCINNATI
OBSTETRICAL SOCIETY.**

Meeting of January 9th, 1896.

The President, A. W. JOHNSTONE, M.D., in the Chair.

DR. PALMER—

PRESENTATION OF INSTRUMENTS.

Some fifteen or eighteen years ago I designed a uterine dilator which has been used by many; they are for sale here in Cincinnati and are shown in Pozzi's work and in the Thomas-Mundé book. It is intended that the blades of the instrument should be perfectly parallel during dilatation. I have always used these instruments in this way: first, insert them in the normal uterine axis, dilate from side to side, then from front to rear, and then obliquely to the right and obliquely to the left. The dilatation is about as symmetrical as if performed with a three-bladed or four-bladed instrument. I have recently designed a No. 3 instrument much thicker and larger than the others, producing a dilatation of one and one-half inches. I used this instrument once at the Cincinnati Hospital before the class, to explore a uterus, and it disclosed a large intrauterine fibroid fit for operation. I have had occasion also to use it in a case of pregnancy in which dilatation was very slowly accom-

plished because of a long, conoid-shaped cervix uteri. It seems to me it can be used for obstetrical work as well as for gynecological work.

The other instrument, this intrauterine irrigator, is well adapted to washing out the uterus. It has the advantage that none of the fluid can be retained. The danger in washing out the uterus is not irritation by the medicant or fluid used, but of some of the fluid being retained. This instrument has a number of grooves so arranged that this is impossible.

DR. WENNING.—I have had some experience with Dr. Palmer's dilators, having used them extensively, especially the smaller size. This is an improvement in some respects over the first devised by him, yet there are some points in which it is inferior. For instance, the ring or scissors handles—which are not on this instrument, but were in the first form—are preferable, because with them the instrument is better controlled. In the largest pattern I should prefer heavier handles, as an instrument can be more easily introduced if there is some weight to counterbalance it. It would also be well to have a guard to prevent the instrument from being jammed too suddenly into the uterus and going beyond the part intended to be dilated. When I dilate, for instance, for retained secundines, when the uterus is larger than normal. I use either Sims' three-bladed instrument or Wylie's modification of Sims', both of which have powerful handles enabling a firm grasp. Then these instruments should be separable, so that they can be more easily cleaned.

DR. BONNIFIELD.—I agree with the last speaker that it would be better if this instrument had a handle which you could grasp firmly. It has been my practice to dilate with my hand and then put on the screw and hold the dilator in position. When the cervix begins to tear the dilator can be released very suddenly, so that the tear will not be as great as though it were necessary to loosen a screw. I prefer a dilator with a handle like Goodell's.

DR. STANTON.—I like the size and shape of the instruments presented very well. My preference, however, is for an instrument with a greater number of blades. I think there is less danger of traumatism with four blades than when the dilatation is effected with two.

DR. PALMER.—My first instruments had the ring and ordinary handle. Having used that for several years, I found it could be dispensed with, particularly as this instrument had the screw attachment, and it simplified the instrument somewhat and made it more economical. I have always claimed that the screw part of the mechanism is a great advantage over manual dilatation, because it is more gradual, uniform, and less liable to effect laceration. The screw can be quickly turned backward if it seems to be producing laceration, though I have never seen it do so.

As to three or four blades: with the two-bladed instrument dilatation is first secured laterally, then antero-posteriorly, then

obliquely to the right and obliquely to the left, by which means a uniform circular dilatation is secured.

DR. WENNING.—I perfectly agree with Dr. Palmer. You achieve greater dilatation with two blades than with four, and with the four-bladed instrument you are more likely to cut the tissue than with the two-bladed, so I consider the latter the safer. Turning the dilator is a good plan if the curve is not too great, as a slightly curved instrument can with ease be turned in opposite directions without doing injury; the two-bladed instrument then answers all purposes.

DR. PALMER.—This instrument is introduced with the left hand, while the screw is turned with the other; I can see no need of the rings in the handle.

DR. BONNIFIELD.—Does not a rigid uterus have a tendency to force the dilator out?

DR. PALMER.—Yes; of course the dilator should be placed up as far as necessary and held there, and at the same time the uterus held down with the volsella.

DR. BONNIFIELD.—But you have to make upward pressure with the dilator as you make downward traction with the volsella.

DR. PALMER.—I suppose so. Now as to the action of the shoulder. I at first directed the shoulder to be put on, but then had it taken off because it looked bungling. We always use sight in the employment of this instrument. You can readily see how far it is in the cervical canal. Of course, if it is a very small cervical canal, you would follow the No. 1 instrument with the No. 2; but usually the No. 1 can be followed with the No. 3.

DR. ROBERT STEWART.—I have been impressed with the utter inadequacy of the ordinary uterine irrigators. This seems to be as little objectionable as any, but I should be afraid, unless there was considerable dilatation of the uterus, that there would be a crowding of the detritus around the instrument in the neck of the womb, and consequently a damming back of the water into the uterus itself.

I have never been able to understand why it was necessary to use anything except a tube through which the water enters the uterus, except to be certain the cervix is sufficiently dilated when there can be no retention. This instrument, while it would permit the water to escape, at least at first, would, it seems to me, be clogged with the scrapings as a stream with brush. With a slightly curved rubber tube with the openings in the side, it seems to me we can do better than with one of these metal instruments. The rubber instrument changes temperature more readily, and with it one is not so likely to punch holes through the uterine wall. With an ordinary fountain syringe and a slightly curved hard-rubber tube the uterine cavity can readily be irrigated, if there is sufficient dilatation of the cervix.

DR. STANTON.—A word in regard to the danger of introducing air into the uterus. If it is so dangerous when carried through a syringe, why is it not as dangerous when introduced through a dilator?

DR. WENNING.—Air is dangerous when it is forcibly injected and cannot leave the uterus readily. If water were introduced into a uterus with a Davidson syringe when the uterus was not dilated, it would be likely to do damage. When the sinuses are not open, as in the puerperal uterus, there is no danger, and any nozzle can be used without a reflux catheter. I have done it repeatedly in hospital work without any ill effects. The instrument does not always act as a reflux. I had an example when I used Skene's catheter to wash out the urethra and used a reflux tube, the openings of which became plugged. This instrument will act better than other reflux catheters, but I do not think we could operate without providing sufficient dilatation for reflux.

DR. BONNIFIELD.—Sufficient traction should be made with the volsella to straighten the cervical canal. When the uterus is considerably anteflexed the internal os makes a valve and will retain considerable water, but traction on the anterior lip straightens the curve and the water can flow out. If one did need something to keep the cervix open, I can conceive no better instrument than the one presented this evening.

DR. JONES.—There are two dilators here. The lighter will do for almost all work and be all that is necessary. In the other we have a powerful machine, and to my mind it is not sufficiently guarded. Although it is well to have a screw for it, I think it would be better with fewer threads to the inch and the handle of the screw made larger, so it could be struck, and, with a little force to release it, would travel quickly to the hand by its weight. That the uterus is not symmetrical, as far as the integrity of the tissue is concerned, I do not think is recognized as a rule. There is a difference between the right and left sides in many cases. Even with a uterus supposed to be strong and firm, an instrument of this kind, if put in without a possibility of sudden release, may do damage. Therefore it would be better if it were arranged as Goodell's instrument is, so that the screw could be suddenly released; and the screw should be made heavy, so that the slightest touch of the finger would carry it to the hand. Having tissue requiring the power in this instrument, it would be better to have it guarded with an elongated handle and the heavier screw.

DR. PALMER.—It will be found in practice that the No. 3 instrument will very seldom be needed. There are cases of concealed accidental hemorrhage in obstetrical practice, and of foreign bodies in the uterine canal, which, contrary to the usual rule, do not create dilatation of the cervical canal below, but call for artificial dilatation. Then, I have never seen any difficulty from the use of this instrument. I cannot see why the turning of this screw cannot be made sufficiently slow to prevent the instrument doing harm.

I never inject the uterine cavity unless there is a fair amount of cervical dilatation. I am fully convinced that the bad results do not occur from the passage of the fluid through the Fallopian tube, because on the cadaver I have found it impossible to force

fluid through the Fallopian tube. Neither do I think the bad results come from the passage of the fluid or air into the system at large, but I think they are due to the sudden distension of the uterine cavity and the inability of that cavity to relieve itself promptly. One can inject fluid, although irritating and mixed with air, and if it can get out readily there will be no harm. So if one takes a glass tube and washes out the uterine cavity, after well dilating the cervical canal, it may suffice. The irrigator I devised before coming to this conclusion. By it the free return current is quickly and absolutely secured.

SYMPHYSEOTOMY KNIFE.

DR. PALMER, in presenting a symphyseotomy knife, said : I believe symphyseotomy has a field of utility, but that field is a narrow one. It seems to me considerable strength is often required in making the operation. Once on a dead subject I found it impossible to get the knife through the symphysis because the symphysis was so ossified. That is why I have changed the shape of the blade and have given it a stronger, more honest handle and the tractor on the handle, so when the knife is pushed behind the symphysis you may use greater strength if needed.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY.

PROCEEDINGS OF THE TWENTY-FIRST ANNUAL MEETING, HELD IN NEW YORK, MAY 26TH, 27TH, AND 28TH, 1896.

DR. WILLIAM M. POLK, of New York, *President*.

First Day—May 26th.

DR. WILLIAM T. LUSK, in his address of welcome, reviewed the past record of the Society. Touching upon the operative tendencies of the present time, he said, in closing, that it should be remembered that in recent years surgery had been employed largely to destroy, whereas its highest function was to preserve.

VIRGINAL AND SENILE ENDOMETRITIS.¹

DR. PAUL F. MUNDÉ, of New York, read this paper.

DR. CHARLES B. PENROSE, of Philadelphia, said that a congenital split had been found in a new-born infant, without any inflammation of the cervical canal ; and in the case which he had himself reported there had been no apparent hypertrophy of the mucous membrane of the cervical canal, nor had there been

¹ See original article, p. 1.

any evidence of inflammation of this mucous membrane. There was a well-marked hymen which would barely admit the little finger. There was a split, measuring five-eighths of an inch, on one side, without any eversion. The erosion appeared to be due to a loss of the squamous epithelium on the vaginal surface. For these reasons he was inclined to believe that in rare cases the condition was congenital.

DR. A. LAPHORN SMITH, of Montreal, said that since reading Skene's article he had frequently noticed senile endometritis. It was a safe rule to consider a sanguineous discharge in such patients due to malignant disease, however, until proved by microscopical examination not to be such. Dysmenorrhea and menorrhagia in young girls he believed were largely due to inflammation of the lining membrane of the uterus, which at each menstrual period became swollen and blocked up the exit of the discharge from the uterus. When it was considered how young girls were apt to expose themselves to cold and to causes which would produce catarrh in other organs, it was not surprising that they should suffer quite commonly from catarrhal endometritis. The speaker also called attention to the effect of long engagements on the menstrual functions. Tight corsets, exposure of the feet to cold, and chronic constipation he considered to be the chief etiological factors.

DR. MATTHEW D. MANN, of Buffalo, said that he had seen cases of virginal and senile endometritis like those described in the paper. In his address last year he had mentioned certain conditions which were often found in connection with virginal and senile endometritis. These were constitutional conditions—errors of nutrition—which were classed together under the general term "lithemia." If the physician overlooked this great underlying condition and failed to institute proper measures directed toward improving their hygiene and general health, there would be relapse almost inevitably.

DR. CHAUNCEY D. PALMER, of Cincinnati, said that he had never seen a case of senile endometritis which led to serious changes in the cervix, but he had observed several cases in virgins where careful local treatment seemed to accomplish but little. In these cases, notwithstanding the integrity of the hymen and the evidences of virginity, the cervix were enlarged, thickened, indurated, and eroded—in other words, in just that condition found in puerperal laceration. In these cases complete relief followed tracheloplastic operations.

DR. HOWARD A. KELLY, of Baltimore, said that at the present time we lacked a clear definition of what constituted virginity. He had never seen an endometritis in a person who was a virgin and who had not been subjected previously to any local instrumentation. He would earnestly recommend examination in the knee-chest position with a small speculum which would not injure the hymen. This could be done, even in a child, without causing injury. He would warn against the use of very active local treatment. In old women the inflammation was for the most part limited to the cervical mucosa. After

dilatation and curetting in these cases he had sometimes found it difficult to keep the canal open.

DR. W. T. LUSK said that there was one form of virginal endometritis which was very common. His attention had been first drawn to it about twenty years ago in a paper by Hildebrandt. The treatment was so simple and satisfactory that he would like to say a few words about it. He referred to young virgins with an intact hymen who suffered from severe backache and sometimes from dysmenorrhea and menorrhagia. Examination under chloroform showed the os internum extremely small and that the cervical canal was distended with a catarrhal discharge. This cervical catarrh results from constitutional conditions, and this catarrh produces erosion and partial closure of the external os. This was followed by partial dilatation of the uterine cavity, associated with dysmenorrhea and menorrhagia. By thorough dilatation of the os externum (not of the os internum, which is already dilated) the retained secretion would be allowed to escape, the pain would disappear, and the uterus would be reduced to its normal size. This treatment would cause a disappearance of all the symptoms described.

DR. JOSEPH TABER JOHNSON, of Washington, D. C., referred to the importance of appreciating the fact that these clefts or apparent lacerations of the cervix might exist without there being any suspicion that the case was not one of undoubted virginity. He had seen two cases in which, in obedience to the present craze, the uterus had been removed on the supposition that the case was one of cancer of the uterus. Microscopical examination subsequently had shown that these cases could have been cured by dilatation of the cervix and curetting.

DR. MUNDÉ, in closing, said that perhaps he had not laid sufficient stress in his paper upon the importance of constitutional treatment. Constitutional treatment was, of course, indispensable for the cure of any case of endometritis. Regarding Dr. Kelly's remarks about prior instrumentation, he would say that the cases referred to in his paper were examples of virginity—that is, if this could be affirmed of persons in whom the hymen was tense and the opening excessively small.

LIABILITY TO PROSECUTION FOR DAMAGES IN ABDOMINAL SURGERY.

DR. CYRUS A. KIRKLEY, of Toledo, Ohio, read a paper on this subject. He said that, while the moral responsibility was the same in every case, the legal responsibility seemed to vary with individual cases and the results of treatment, so that when the abdominal surgeon was prosecuted the demand for damages was not likely to be insignificant. The law very properly demands of the surgeon reasonable skill and care. The average jurymen looks upon the medical expert as upon any other witness—i.e., as having a bias for the side calling him. Moreover, the sympathy of the jury is usually with that side which

appears to most need a favorable verdict; hence a jury was almost sure to award a verdict for damages against a corporation and in favor of the individual. The speaker then dwelt upon the urgent need for reform in medical expert testimony. He said that medical expert witnesses were often compelled to disagree because opposite hypothetical questions were put to them. The hypothetical question, though supposed to embody the facts of the case, is often one-sided and disingenuous. He commended the English plan, in which medical men refused to testify without conference with the medical witnesses called on the other side. Regarding the question of whether a surgeon would be liable in damages for opening the abdomen in a case in which death would certainly follow without such interference, while the operation offered a chance to save life, the speaker quoted an opinion from Mr. Clarence Brown to the effect that if it were the general opinion of well-qualified surgeons that the operation was demanded under such circumstances, the surgeon should not be liable in damages. In a recent case in Brussels, where the consent of the husband alone had been obtained, a verdict was rendered in favor of the surgeons. In closing, Dr. Kirkley suggested the appointment of a medical commission by the court to hear and determine the medical questions involved in a given case.

DR. KELLY said that the semi-civilized state of our country was in no way more apparent than in this matter of medical expert testimony. The most experienced surgeon was not exempt from prosecution by the most degraded member of the community. The laws in the different States differed widely regarding the liabilities of surgeons and hospitals. To protect ourselves the following rules should be borne in mind and used in practice: (1) A written record should be kept of the histories of cases and of the visits; (2) careful notes should be made of the results of the examination, and an effort should be made to state in the patient's own language the symptoms and nature of the complaint; (3) a note should be made of the proposed line of treatment and of what has been promised to the patient from it; (4) never promise absolutely more than the usual mechanical result of the operation; (5) endeavor to state clearly and frankly to the patient in cases of abdominal operations the risks of such operation, as shown by approved statistics; (6) keep careful notes of the period of convalescence; and (7) maintain subsequently a courteous but fearless attitude.

DR. EDWARD P. DAVIS, of Philadelphia, said that experience had shown him that a woman might pass through a normal parturition, and yet be suddenly seized two or three weeks afterward with pain and diarrhea, and perish from rapid sepsis due to the rupture of an ovarian tumor and the escape of purely ovarian fluid. For such cases the only prospect of success was laparotomy, performed within an hour or two after rupture. A case of this kind was likely to be made at times the basis of a suit at law. The speaker said that in the courts of Pennsylvania it had been decided that in a suit for civil

damages two physicians should examine the plaintiff—one physician selected by the plaintiff and the other by the defendant. He had been recently informed by his attorney that one's accounts must be kept in such a shape that when produced in court it would be possible for any intelligent person to identify the marks upon which the claim for professional remuneration is based.

GYNECOLOGY AND GENERAL MEDICINE: THEIR RECIPROCAL RELATIONS.

DR. CHAUNCEY D. PALMER, of Cincinnati, read a paper with this title. He said that the sympathetic system of woman is more sensitive than that of the other sex, and that clinical experience could not fail to impress us with the close relationship of the pelvic organs to the eye, the stomach, the heart, the bowels—indeed, to the whole nervous system of the body. Over the centre of the various pelvic functions presides the lumbo-sacral cord. By the delicacy of her organization woman becomes predisposed to a vast variety of disorders peculiar to her sex. Thus the various mental disorders are often connected with, and dependent upon, female pelvic disease. Menstruation might be properly considered as a miniature of parturition. With the advance of pregnancy the body was granted an immunity and protection against the inroads of septic poisons, for at that time the physical resistance was increased. On the other hand, parturition, with its attendant loss of blood, restricted dietary, and accompanying exhaustion, was an opportune time for infection, both from within and from without. Similarly, a menstruating woman showed a diminished resistance to disease. The female bladder and rectum, the speaker said, gave rise to disease in connection with disorders of the ovaries, because of their close proximity, common blood supply, and intimate nerve relations. There was very little gynecology outside of the domain of general medicine; on the other hand, there was scarcely a disease of the general system of considerable importance which did not affect the circulation, innervation, and functions of the pelvic organs. Many chronic diseases of the uterus were chronic only by reason of a diathetic taint or deterioration of the general health. Almost every gynecological condition required more or less constitutional treatment; hence the perniciousness of the old doctrine that gynecological treatment should be purely local. In conclusion the speaker said that gynecologists should be considerate, conservative, broad, and comprehensive in their views, for he who sought the truth should have no country and no sect. We should be physicians as well as surgeons.

DR. JOHN BYRNE, of Brooklyn, expressed his personal thanks to the reader of the paper for his timely communication on a subject which had unfortunately been sadly neglected by both young and old in this special department of medicine.

DR. FORD, of Utica, said that the danger seemed to be that gynecology would be kept in the hands of those exclusively

trained for this work, and would thus tend more than ever to run into "fads." His attention had been called to the importance of combining general medicine with gynecology by an experience with a case in which there was a large, tuberculous mass in the abdominal cavity. He had scooped out as much as possible through the Henrotin incision in the vagina and had established permanent drainage. By the medicinal use of iodine and cod-liver oil, together with this simple surgical measure, in an apparently desperate case, an unexpectedly good result had been secured. It was an instance of what medicine and surgery could do when judiciously combined.

DR. S. C. GORDON, of Maine, said that he had been surprised to hear Dr. Kelly make so light of the surgical treatment of endometritis in virgins. He ventured to say that one-fourth of the cases of curetting in his practice were in virgins, and the results had been very striking when this surgical treatment had been combined with the administration of tonics. There was often a condition of anemia which would not yield until the local trouble had been relieved surgically. He hoped he would live long enough to see the profession get out of the idea of "chronic inflammation," for he believed there was no such thing. According to his way of thinking a virgin got an attack of inflammation every month, which lasted a few days and left behind its results, always a thickening and an exudate. After proper local treatment his favorite tonic pill was the following :

Ferri redact.....	gr. ij.
Ext. gentianæ.....	gr. j.
Ext. nucis vom.....	gr. ʒ.

He saw no reason why an unmarried woman suffering from endometritis should not be subjected to proper surgical treatment just as much as others suffering from endometritis. He thought that there had been too much sentiment regarding this examination and local treatment of virgins.

THE CLINICAL IMPORTANCE OF THE MENSTRUAL WAVE.

DR. ARTHUR W. JOHNSTONE, of Cincinnati, presented a paper with this title. He said that menstruation was nothing but a shedding of the superficial layer of the endometrium, and was a kindred process to the shedding of the hair and the dropping of the horns in the lower animals. He felt that the clinical importance of the menstrual wave was not appreciated as it should be. His views had been stated more at length in THE AMERICAN JOURNAL OF OBSTETRICS, vol. xxxi. In most cases of vicarious menstruation there was a certain amount of hardening of the endometrium which obstructed the outflow, and the reflux wave was thrown off to some other and weaker part of the system. As the wave receded the pelvis became anemic and every organ shrunken to its smallest size. It was at this time that adhesions on the surface of the ovaries were put on the stretch, causing pain. When there was a pathological

hardening of the tunica albuginea of the ovary the shrinkage of tissue during the trough of the wave caused a bending-in of the surface of the ovary, thus putting it on the stretch. This must necessarily produce pain. We should never operate just before a menstrual period when it could be possibly avoided. There would be far less blood lost at an operation done immediately after a menstrual period. The speaker said that there was not a functioning organ of the body which was not deranged when the outflow was not free. Thus it was rare to find a case of endometritis with good digestion. He had had not less than two cases in his experience, diagnosticated by competent general practitioners as ulcer of the stomach, in which relief of pelvic disease had promptly removed all the stomach symptoms. Whenever a disorder appeared at any point in the menstrual cycle one should at once direct attention to the pelvis. He had seen forms of Bright's disease very much exaggerated at certain points in the menstrual wave. He had had two cases of intermittent glycosuria connected with the menstrual cycle, both of which had been absolutely cured by bringing on an artificial menopause. These cases, of course, were due to pressure on the floor of the fourth ventricle by the reflux wave. Many sins against the ovaries, he thought, would be avoided if proper attention were given to the menstrual wave. He had been able to modify many cases of Basedow's disease, and cure a few, by treatment of some abnormality in the pelvis. The cure of a fungous metritis or the repair of an old laceration would often rid such a patient of much of her trouble. One patient had told him that she could tell when the menstrual period was coming by a temporary loss of voice. The voice would usually return at the moment of the appearance of the flow. He had found one ovary full of pus and the other irreparably damaged. It was now two years since the artificial menopause had been brought on, and since then there had been no loss of voice. Epilepsies and mental derangements of every description having periodical returns should be most carefully studied in women, to determine whether or not there is any relation to the menstrual wave. It was his impression that it was the crest of this wave that did the mischief. In the Toledo Asylum it had been found that about five per cent of the female lunatics were insane from pelvic causes.

DR. A. J. C. SKENE, of Brooklyn, said that he was glad to hear the opinion expressed that no one was worthy of being called a gynecologist, or indeed a specialist of any kind, who had not a thorough knowledge of general medicine. A specialist might be defined as one who knew everything about one subject and a little about every other subject. He could not agree with Dr. Palmer that a woman was peculiarly liable to disease because of the delicacy of her organization, for the facts were that she was peculiarly exempt from many diseases to which males were subject, particularly organic nervous diseases. The last paper seemed to lead up to the most important and the least defined part of the subject—*i. e.*, to what extent

were the sexual organs responsible for many of the constitutional diseases, notably those of the nervous system. It was only a short time ago, he said, when nearly all the nervous diseases in women were attributed to disease of the pelvic organs, but this view had led to some very unsatisfactory practice. Not long ago it had been believed that many cases of epilepsy could be cured by the removal of the ovaries in cases in which there was evident disease of these organs; to-day neurologists claimed that they did not believe that a case of true epilepsy had ever been cured by any operation on any organ of the body. According to a theory held by some gynecologists the thyroid affection would be best controlled by the administration of the active principle of the ovaries; but from the standpoint of the general practitioner the administration of the thyroid extract would seem more rational. Regarding Dr. Johnstone's paper, he would say that he thought Stephenson's ideas were worthy of unstinted praise. He had found them by far the most valuable guide in his clinical work.

DR. GEORGE J. ENGELMANN, of St. Louis, said that these papers were extremely timely. It could not be denied that the relations between gynecology and general medicine were intimate, but these relations were often not evident, and experience in one case was no guide for another. At one time it had been believed that the removal of the ovaries would relieve many nervous conditions. His experience had been that such symptoms were controlled much more by the uterus than by the ovaries.

DR. PALMER, in closing the discussion on his paper, said if ophthalmology, laryngology, and the other specialties bore a relation to general medicine, certainly gynecology was no exception to this rule, and, in his opinion, it was very much more closely related than any one of these other branches. He had been a strong advocate of the principles enunciated by Stephenson and could corroborate what had been said in Dr. Johnstone's paper, with one exception—*i. e.* he did not think this wave had anything to do with the production of periodical intermenstrual pain. He believed pain occurring near the middle of the period was really due to ovulation occurring at that time in an ovary the cortex of which had been pathologically thickened or hardened.

DR. JOHNSTONE, in closing the discussion, said that while there were some indications of a menstrual wave in males, the subject was complicated and our knowledge regarding it as yet but poorly defined. He did not think that more than five ovules ripen in the course of a year, hence he could not understand how intermenstrual pain could be ascribed to a thickened condition of the ovary. He had never seen a case of intermenstrual pain relieved until the menopause had been brought on. In one case of this kind there were long, filiform adhesions, which became stretched by the shrinkage in the course of about nine days, and hence at this time occurred the intermenstrual pain. In other cases he had always found some condi-

tion giving evidence of stretching of the nerves on the anemic side of the wave.

AIDS IN OBSTETRIC TEACHING.

DR. J. CLIFTON EDGAR, of New York, read a paper on this subject.

Dr. Edgar is convinced that while the best method for a student to learn obstetrics is the personal care of parturient and puerperal women, still much of this experience will prove useless unless he has an intelligent appreciation of his work, based upon a previous thorough training in the principles of the subject. It is this training of reason and perception, and the aids to it, which have largely taken the place of the old theoretical lecture with which the author's attention is occupied. He is a firm believer in the advantage of models "possessing the third dimension of space," over elaborate description and illustration in the form of diagram. The rachitic pelvis, injuries to the pelvic floor, the relations of the uterus to surrounding parts, are far better understood from casts and paper reproductions than from charts however well executed. The models are particularly useful in the training of nurses. A further advantage in their use is the fact that they may be kept obstetrically clean and may be used at the bedside or in the obstetrical clinic. While something has been done in this field, much remains—for example, models of uteri of known periods of gestation and of pelvic deformities, which, by their interchange, do not a little to raise the standard of obstetric teaching.

Models are not, in any sense, to replace bedside instruction; they are purely auxiliaries to instruction in its various forms, and care must be exercised in their use. They undoubtedly lend a new interest to many points otherwise obscure and dry. The natural size of the object should always be reproduced, or a wrong impression may be conveyed. Diagrams, charts, and blackboard illustrations are unsatisfactory and tiresome to the student, and can never be made to impart the practical knowledge obtainable with the aid of a few selected models.

The several varieties of aids to obstetric teaching are, for convenience, divided into five classes:

1. *Plaster Models.*—As such, these have a very limited field of application on account of weight and brittleness. Plaster is chiefly useful in securing impressions which are then reproduced in other ways.

2. *Paper Reproductions of Clay and Plaster Models.*—The method of preparation used is that proposed by W. G. Thompson, which is briefly as follows: A clay or plaster model is covered by a layer of small strips of newspaper (two by four) previously moistened. On this single layer are rapidly placed successive coverings of the same paper dipped in glue. In large models, strengtheners, such as wire, gauze, cheese cloth, etc., are introduced, and the top layer is laid smoothly to give an even surface. It is removed entire or in section, a backing added, and several coats of paint or varnish applied. Webster's

frozen sections were reproduced in this way by enlarging photographs of the cuts on tissue paper, modelling through this in clay, and overlaying the paper strips as described. Transverse and sagittal sections and round objects may be modelled in this way, the latter to show the size and shape of the uterus in various stages of pregnancy. If casts can be taken from gravid uteri after death, so much the better, for they can then be exchanged among teachers and museums. A few of the uses to which paper models may be put are to show the height and shape of the fundus and lower uterine segment, placental insertion, physiology and pathology of pregnancy, mesial sections of the uterus, the curve of the parturient canal.

It is possibly best not to attempt reproduction in paper of any but the grosser frozen sections; a model of uterus and contained ovum was not altogether satisfactory. For such illustrations as much can be accomplished by diagram. Models representing involution, position, and relationships of puerperal uteri from Webster's sections are, however, of use not only in demonstrating the physiology but the pathology of the puerperium. Rupture of the vagina and uterus, their relations, and the greater danger of infection when the tear involves vagina as well as uterus, may thus be shown.

3. *Composition Models.*—The author uses as a cheap substitute for rubber, modellers' and plasterers' composition of glue. Its application seems limited to a series of cervixes in different stages of dilatation. The mixture finally adopted was of Cooper's A-1 glue and glycerin, the proportion determined by the flexibility desired.

The glue is soaked in water, the latter being removed by filtration and the glue melted over a water bath. Glycerin is added and the mass boiled to expel the remaining water. The time required depends on the size of the mass and amount of contained water. When ready to pour, the mass should be of thick, creamy consistence. Any desired color of aniline may be added in alcoholic solution. The mould is prepared by taking a negative model of the lower segment of the uterus (for example); this is covered with clay to required thickness, and a core is formed by running in plaster and allowing it to harden. The clay is removed, core and negative mould carefully shellacked, oiled, and fastened together. The glue, not too hot, is then poured in and allowed to cool. It may be removed in six hours.

In case the models shrink and become hard they may be remelted and fresh glue added. They will then have less tendency to shrink. The lower uterine segment, mechanism of dilatation, with gradual disappearance of the supravaginal part of cervix, are some of the conditions capable of reproduction in composition. (The author here takes occasion to indicate his preference for bimanual over digital and instrumental dilatation of the os.) The models demonstrate the dangers of ordinary digital and manual dilatation, and of breech extraction through an imperfectly dilated os, incomplete extension of the head, etc.

4. *Miscellaneous Models and Aids.*—These include metal and leather models not classifiable under other heads. The first offered is a vertical mesial section of the bony pelvis in aluminum, mounted by a hand screw on a blackboard, and the whole set on a tripod. There is scarcely an obstetric or gynecological condition that cannot be shown with it in connection with puppets, uteri, and chalk. The complete metal pelvis mounted on a tripod has already been described by the author; it is indestructible, adjustable at almost any angle, and fitted with movable sacrum and coccyx.

Chamois-leather models of puerperal uteri do duty in many ways, being made to open. With it the student may be taught to repair cervical lacerations, curette and pack the cavity. It supplies an opportunity for manual training which may never occur to him again until in practice.

The perineum and pelvic floor should be reproduced in rubber, which is clean and portable. Casts are made from the living subject and rubber models made from them.

5. *Electro-plated Plaster Models.*—For very small objects where minuteness of detail is required—e.g., the non-pregnant uterus—electro-plated plaster models are recommended. A plaster cast is taken of the specimen, carefully dried and copper-plated. Bone, composition, and clay may be covered in the same way. Pelvic deformity, a subject usually dry and uninteresting to the student, is brilliantly illustrated by Tramond's series of twenty-four papier-maché models from Paris museums. By copper-plating they are made indestructible and may be constantly handled. This series is equally valuable to the teacher, practitioner, and surgeon.

Lacerations of vagina, perineum, and anterior rectal wall are permanently preserved in this way, the plaster casts being taken from the living subject at first. Proving unsatisfactory later, they were made from artificial lacerations in the cadaver. Sutures may be put in place by a drill afterward.

DR. A. H. BUCKMASTER said that he thought paraffin possessed some advantages as a modelling material over those described in the paper. It had been used for some time past by dentists. He had succeeded in taking with it casts of the vulva from the living subject. It could be applied with a camel's-hair brush without causing the person much discomfort. After a sufficient thickness had been obtained in this way a plaster cast could be made from this.

DR. ROBERT A. MURRAY, of New York, referring to the question of pelvic deformity, said that the two important elements to be considered were (1) the size of the pelvis and (2) the size of the child. Statistics in Germany showed that there the child weighed on an average six and a half pounds, but in this country, with better-nourished children, the average was higher—seven and a half pounds. In this country the severer degrees of pelvic deformity were very rarely met with; we usually saw only relative deformity.

DR. KING, of Washington, D. C., complimented Dr. Edgar

on his originality and ingenuity, as shown by the advances that he had made in this difficult matter of the clinical teaching of obstetrics. He would suggest that Dr. Edgar should devise an apparatus which the student could purchase and keep at his home, and so have abundant opportunity for educating his sense of vaginal touch.

DR. EDWARD P. REYNOLDS, of Boston, said that he hoped Dr. Edgar would elaborate this series of models, so as to present graphically to the student the mechanism of labor. He believed it was far better to attempt to graduate classes with a knowledge of one concise and definite method of meeting emergencies, rather than with a more or less hazy knowledge of various methods. Without a thorough understanding of the mechanism of labor the students would find it difficult to progress in obstetrics. He agreed with the reader of the paper that it was impossible to teach obstetrics properly without models having the three dimensions.

DR. EDWARD P. DAVIS said that the models, although in the line of some work done abroad, were a great improvement upon this, and some of this work was original and striking. Of the series exhibited, in his opinion the two best portions were the models of lacerations of the parturient tract and the aluminum model of the pelvis. The models of the lacerations presented to the student in a clean and safe way an actual reproduction of lacerations and illustrated the methods by which they were to be repaired. There was no better way of teaching the mechanism of labor than by giving each student a pelvis and a fetal head of normal dimensions and allowing him to recognize the relative dimensions of the two. In actual practice he might be without instruments for making pelvic measurements, but by his prior training he would have learned by the sense of touch to determine whether the head of the child was or was not engaged at the pelvic brim. Nothing had yet been said about the method of investigation by means of skiagraphs. At the present time the exposure had been reduced to about one minute for obtaining skiagraphs of the human body, but as the child was in almost constant motion nothing much could be accomplished in this way until the exposure had been made considerably shorter.

DR. EDGAR said that he had not had as much success with paraffin in modelling as with plaster. The papier-maché models had been originally made with the idea of illustrating the mechanism of labor, but he had not had time to touch upon this subject in reading the paper.

TWO CASES OF PREGNANCY FOLLOWING REMOVAL OF BOTH
TUBES AND OVARIES; TWO CASES OF EXTRAUTERINE
PREGNANCY, ETC.

DR. S. C. GORDON, of Portland, Me., reported several interesting cases. The first was that of Mrs. A. M. D., 36 years of age, who was operated upon on May 27th, 1891, both ovaries and tubes being removed by one of the members of this Society.

She did not menstruate regularly after the operation, but became pregnant about June, 1894, and was confined on February 26th, 1895. Since her confinement she had menstruated regularly, beginning about two months afterward.

The second case was that of Mrs. R., 33 years of age, who had been an invalid for several years prior to the operation. She had been bed-ridden for nearly a year before. She suffered from menorrhagia. Curettement and perineorrhaphy gave only partial relief. In March, 1894, he had removed both ovaries and tubes, and so far as known no fragments of either had been left behind. She recovered quickly from the operation, but menstruated regularly each month after the first two or three months. In June, 1895, menstruation ceased, and she was delivered of a healthy child on March 12th, 1896. The speaker said that in each of these cases there must have been some stroma of ovarian tissue left, but the curious question was as to how it reached the uterine cavity.

TUBAL PREGNANCY BECOMING ABDOMINAL ; LIVING FETUS ; OPERATION.

The next case was that of a woman who had passed one menstrual period without a flow and had then experienced some pain the following month. Six months before he had seen her there had been terrible pain in the lower part of the abdomen, followed by collapse and considerable hemorrhage from the vagina. A mass of exudate could be detected per vaginam. The diagnosis was tubal pregnancy with rupture at the time of the attack of pain. In another six weeks she was sufficiently recovered to be operated upon. On opening the peritoneum a grayish tumor came into view. It lay in the general cavity, but entirely distinct from the Fallopian tube. It contained a fetus which gasped several times after removal. It was apparently about five months advanced. She recovered rapidly from the operation. Both tubes and ovaries were removed, as the inflammatory process had practically destroyed them. The speaker thought this case undoubtedly belonged to the class of primary tubal pregnancy becoming abdominal subsequently.

The fourth case was that of Mrs. N., 35 years of age, who had had twins about eight years before he had first seen her. In September, 1895, menstruation was missed, and the next month there was severe pain and a bloody discharge from the vagina. Shortly afterward he had seen her for a few minutes while she was passing through his city. Two weeks later examination under ether showed an enlarged right tube. On section the tube was found much enlarged and containing a fetus of about six weeks. The hemorrhage was all within the peritoneal coat. She had had salpingitis after the birth of the twins, leaving an infected uterus, so that he had performed hysterectomy, with the result that she was in better health now than she had been for years before.

EFFECT OF COMPLETE HYSTERECTOMY UPON THE VAGINA.

Dr. Gordon said that in 1892, at the meeting of the American Medical Association, he had advocated the complete extirpation of the uterus. Most operators leave the cervix and cover it over with the peritoneum. To remove the uterus by the vaginal route the parts concerned were necessarily put upon the stretch and pulled down, and the tendency, therefore, was to shorten the vagina after complete closure had taken place. By his technique the broad ligaments were drawn up as soon as cut by an over-and-over continuous suture. After the completion of the operation the vagina was lifted above the normal position and closed by the same suture continued from the broad ligament. In this way the vagina was actually lengthened by so much as it was drawn up by the suture. This he had demonstrated by examinations made immediately after the operation. He had examined many cases, and had found no shortening of the vagina except in two or three instances in which the cervix had not been removed. He had found atrophy of the vagina, as had other observers, but whether this was due to the operation or not he could not say. He was inclined to believe that the weight of the remaining cervix in the incomplete operation had a tendency to cause prolapse of the roof of the vagina.

CASES OF DOUBLE OVARIOTOMY FOLLOWED BY PREGNANCY, AND DELIVERY AT TERM.

DR. R. STANSBURY SUTTON, of Pittsburg, related the following case: In October, 1892, Mrs. Paterson had been admitted to the hospital. She was emaciated and very feeble, the pulse being 140. The diagnosis was ovarian cystomata, and an unfavorable prognosis was given. She had been married in 1885 when 25 years of age. Prior to the birth of her first child, a year later, her attending physician had diagnosed an ovarian tumor. She had had no more children up to the time of her admission to the hospital. On March 20th, 1892, two days after admission, he had opened the abdomen and removed a multilocular ovarian cyst. On the left side was a multilocular cyst weighing six pounds. On this side he severed the pedicle with the scissors, as the cautery was not sufficiently hot, but on the other side the cautery had been used. The stump of the pedicle lay close to the horn of the uterus. The uterus was somewhat larger than normal. The uterus being retroverted, it was brought up into position and fixed at the lower angle of the abdominal wound by two buried silk-worm-gut sutures. The tumor from the right side contained colloid material. On June 10th, 1894, she gave birth to a male child weighing ten and a half pounds. In 1896 she was delivered of another child, and at present is in excellent health.

DR. A. LAPHORN SMITH reported a similar case—that of Mrs. N., 28 years of age, mother of two children, the last one three years ago. She had been under his care for dysmenor-

rhea and almost constant pain in the left ovarian region. She was operated upon shortly after a menstrual period. The left tube was nearly closed at the fimbriated end and strictured at the uterine end. Both ovaries and tubes were removed. She made a rapid recovery and was free from pain. One month later he was surprised to find the uterus considerably larger and the breasts showing indications of pregnancy. In due time she was delivered of a well-developed child. It was probable that she had conceived immediately after menstruation, and that the fecundated ovum had passed into the uterus just prior to the operation.

DR. ERNEST CUSHING, of Boston, said that one year and a half ago he had been called to see a lady who had violent hemorrhages and a high temperature. He found a mass on the left side. Her husband was at the time suffering from a chronic gonorrhea. On the following day he had operated and had found the left tube enlarged, adherent, and containing foul pus. He removed the left tube and ovary, but saved the right tube and ovary. She recovered well from the operation and five months later aborted. There had been apparently a pregnancy of about three weeks' duration at the time of the operation, and this had served to excite an old gonorrheal condition in the tube, for she had had previous attacks of pelvic peritonitis and the husband had suffered from gonorrhea for a long time. The speaker also recalled a case of abdominal pregnancy in which the fetus lay in the abdomen and the placenta was partly within and partly without the tube. It had more than reached full term. He had had a good deal of experience with hysterectomy by the various methods. There should be no shortening of the vagina, whether the cervix were entirely removed or a portion of it left behind. Personally he preferred to remove the whole cervix.

DR. ENGELMANN referred to a woman, 32 years of age, the mother of five children, upon whom he had operated. There was a large colloid tumor on one side and a small-sized cyst with an ovary underneath. The tube was left intact. In the pedicle could be found some ovarian tissue. Menstruation recurred regularly almost from the time of the operation. In a year or more this woman conceived, and was delivered of a child at full term. He said that Schröder was one of the first to experiment with conservative surgery on the ovary, purposely leaving portions of ovarian tissue with a view to preserving the menstrual function. The cases reported were of interest as showing that if such portions of tissue were left the menstrual function would be retained.

DR. A. PALMER DUDLEY, of New York, said that he had been specially interested in this question of conservative surgery of the tubes and ovaries. He had begun this work four or five years ago. He was able to state at the present time that he had records of three living children, and of three women now pregnant from whom he had removed half of the tube and half of the ovary from a mass of adhesions. He cited a case upon

which he had operated some time ago in the presence of Dr. S. C. Gordon, removing portions of the tubes and ovaries only. He had just heard from that patient that she was now three months pregnant. He thought the records of these six cases were sufficient to warrant us in continuing in this line of conservative surgery. One reason for success was the use of the catgut ligature, which would soften sufficiently early to allow the tube to become patent.

DR. ARTHUR JOHNSTONE said that it was not uncommon to find more than one opening to the tube, and this was an explanation of pregnancy in some of these cases. The leaving behind of a small piece of ovary did not necessarily preserve menstruation. In the cases reported a piece of ovarian tissue might have been left, or an additional portion of ovarian tissue, known as "the third ovary," might have been present, and in all probability there was a secondary opening into the tube. Another explanation was that by some means the ligated tube had become reopened. In his practice an effort was made to apply the ligature as closely as possible to the uterus, so as to cut off the sympathetic centre.

DR. GORDON, in closing, referred to a case in which menstruation had continued after a double ovariectomy, and then by a second operation he had removed all the uterus except the cervix, and yet menstruation had continued. He was positive that he had removed the fundus of that uterus, and had used an over-and-over suture down the broad ligament, and he knew that the sympathetic nerves close to the uterus had been removed, and yet menstruation had continued. In the case he had reported in the paper, he felt confident that the woman would not have become pregnant so long as the ovaries had been allowed to remain. He could not go quite as far as some of those who were called "conservatives."

DR. SUTTON said that in the case he had reported the tumors had been thoroughly removed and one stump had been treated with the Paquelin cautery. But the stump on the other side was not cauterized in this manner, so that probably there was a detached patch of ovarian tissue in that stump. He thought if the ligature were applied sufficiently close to the horn of the uterus, so as to cut the sympathetic nerve, there would be no more menstruation. He cited the case of a woman who had been a widow for many years and who stated that her menstruation had taken place two weeks before. She had been the rounds of various physicians, and she was willing to have the ovaries removed. He had removed both tubes and ovaries, yet nine months later, less forty days, she had been delivered of a child.

Second Day—May 27th.

PRESIDENT'S ADDRESS.

The President, DR. WILLIAM M. POLK, of New York, in his address took a retrospect of the twenty-one years of the

Society's existence. He said that even before the birth of the Society there were signs of a revolt against the accepted theory of inflammation. In the endeavor to ascertain the cause of surgical fever, investigation was made into the bodily conditions of the patient, into atmospheric changes and the influence of the seasons, and into sanitary conditions of the hospitals, etc. Finally the conclusion was reached that dirt or filth of some sort was the cause of "surgical," now better known as septic, fever. A short time before the Society was organized the field of gynecology had been largely dominated by the cervix, and gynecological practice appeared to consist chiefly in the use of the cylindrical speculum and the stick of nitrate of silver. It was difficult to estimate the value of Emmet's labor. His insistence upon the early use of forceps to protect the tissues from that necrotic process which formerly led so often to fistula, and for which the forceps were often blamed, is now a matter of history. Spurred on by dire necessity, gynecologists had irrigated and buttonholed the urethra and bladder, but all to little purpose in the vast majority of instances. And yet these measures paved the way for a more or less direct inspection of the bladder, and even of the ureters—a method for which we owed much to Kelly and Pawlik. The vagaries of appendicitis are now so well known that it is no longer necessary to jump to the conclusion that the right adnexa are necessarily at fault when pain is felt in the right iliac region. More than one mind had endeavored to search for better things in the treatment of retrodisplacements, but a spirit of doubt had arisen regarding all methods of surgical relief of this condition. To the future must be left the solution of the problem as to which surgical method is the best. In the first volume of the Transactions, under the title of "Extirpation of Functionally Active Organs for the Remedy of Otherwise Incurable Pelvic Disease," Dr. Polk said would be found a paper by Dr. Battey which deals with vaginal *versus* abdominal section. The great mortality of the vaginal route interfered with its general acceptance at that time, and the enthusiasm of successful laparotomy soon smothered the claims of vaginal section. But at the present time the indications were that vaginal section would supersede abdominal section in many cases. The speaker then drew a vivid picture of the awful ravages of puerperal fever in the days preceding the organization of this Society, and of the doubt and dread that were inevitably associated with obstetric practice.

In conclusion, the speaker said that time had its revenges here on earth. The tendency of modern times was to be "up-to-date"; many felt impelled by a voice which seemed to say, "Get success; it will be a shield quite broad enough to cover all misdeeds." But we could hope for little without a loyal devotion to our ancestry; therefore we, as a Society, should be loyal to our forebears, and look back to them for inspiration and guidance before going elsewhere; we should give honor to those left to us, for their wisdom and fidelity, and for the trust that they had passed down to us.

THE TECHNIQUE OF VAGINAL HYSTERECTOMY.

DR. PAUL SÉGOND, of Paris, presented, in the French language, a communication on this subject, which was interpreted by Dr. Henrotin.

He said that he desired to be understood as not presenting vaginal hysterectomy as a "cure-all," recognizing laparotomy as an old and valued method for treating septic diseases of the abdominal cavity. Vaginal hysterectomy is only one method, adapted to a certain class of cases. He wished to establish the fact that in all cases, particularly those of pelvic suppuration, if there were any doubt whatever regarding the disease being bilateral, he would prefer the abdominal method. It was a matter of great importance that the abdominal scar be done away with entirely, particularly in the case of fibroids, in which the scar is large and is likely to cause after-trouble. No matter what modifications had been made by individual operators, the method was really that originally devised by Péan—the control of hemorrhage, and section in such lines as would for the most part avoid injuring the blood supply. All the operative procedures should be done under the guidance of the eye. The hysterectomist entered from below and found the line of cleavage between the uterus and the adjoining organs. When such a cleavage was found it was just as easy to separate from below as from above. In the very rare cases, however, in which no such line of cleavage could be found, the vaginal hysterectomist must retreat somewhat and cut off the tissues a little below. In such cases an incomplete operation was sometimes done. In the few cases, the author said, in which he retreated before such dense adhesions, there would be an equal liability of doing an incomplete operation from above, and would require an undue handling of the bowel; hence the dangers of the one method nearly balanced those of the other.

As regards the occurrence of vaginal hernia, he said that, excluding the cases in which prolapsus had already existed and hence made the cases unsuitable for vaginal operation, it was so rare for hernia to follow vaginal hysterectomy that this could not be considered a valid objection. In six hundred cases he had not met with a single hernia. He desired also to draw attention to the completeness of the cure, the comfort which the patient experienced, and the entire absence of the abdominal scar after the vaginal method.

The speaker then discussed the four most dreaded complications of the operation—lesions of the bladder, ureters, and intestine, and the occurrence of hemorrhage. Dr. Ségond said that he had wounded the bladder about six times in the six hundred operations. The bladder was particularly liable to be injured by the initial incision anterior to the cervix, and also just as one was about to enter the abdominal cavity. By pulling the cervix backward and forward one could recognize the exact location of the bladder and so avoid wounding it in the initial incision.

By avoiding the use of the lateral retractors and of the large-bladed Péan instrument, the bladder should not be wounded in the later steps of the operation. He uses a short retractor, placed on the anterior surface of the uterus, and held in position with scarcely any force. The wounding of the rectum, he said, was of but little importance, but it could be avoided in the same manner. In many cases of suppurative disease there was already a connection between the diseased parts and the rectum. He had not seen a single case in which the healing of the rectum had not been prompt and complete. The most serious complication that had arisen after the operation was the wounding of the ureter. The ureter was wounded at two steps of the operation—viz., (1) in dissecting back the bladder and anterior vaginal wall at the beginning of the operation; and (2) after the completion of the operation, in the manipulations for the control of hemorrhage. In the six hundred operations he had wounded the ureter twice. This wounding of the ureter was avoided by making his circular incision, and then a lateral incision up to the sides of the uterus. This made an anterior and posterior valve of the vagina. Great care must be exercised in dissecting up this anterior valve. When this had once been accomplished thoroughly there was no further danger of wounding the ureter. The avoidance of retractors, particularly the lateral ones, and perfect and careful denudation of the anterior flap, were the means that he would advise for the prevention of this complication.

As regards hemorrhage, the speaker said that it might occur early or late. The latter was, however, extremely rare. His plan was to require his patients to remain in bed for two weeks. He also allowed the packing to remain for from five to eight days, unless there was some distinct indication for its removal. Hemorrhage occurring at the end of forty-eight hours could usually be avoided by the use of proper instruments. All such were practically those devised by Péan—i.e., instruments with a short blade, a long handle, and proper serrations for securing hemostasis. He always left the forceps on for forty-eight hours. The hemorrhage occurring during the operation was chiefly due to individual technique.

THE RELATIVE MERITS OF TOTAL OR PARTIAL HYSTERECTOMY FOR CANCER OF THE CERVIX BY ORDINARY METHODS, AND SUPRAVAGINAL EXCISION BY GALVANO-CAUTERY.

DR. JOHN BYRNE, of Brooklyn, presented a paper on this subject. He said that the question of primary mortality was, in the abstract, really one of secondary importance. Any one who had witnessed vaginal hysterectomy must have been impressed with the gravity of the operation, although in expert hands the removal of a cancerous uterus by this method had not been attended by so much disaster as to exclude this mode of treatment. Were it not for the groundless assumption of those who had wantonly tried to minimize the difficulties and dangers

of these operations by quoting the phenomenal successes of a few favored ones, the question of the primary mortality need hardly be considered. He was fully convinced that the frequent publication of so-called successful hysterectomies, almost to the exclusion of the unsuccessful ones, had wrought almost incalculable evil, so that he was of the opinion that it would have been better for women had the statistics of Price and Eastman of this country, and of others abroad, never seen the light of day. Any author, before flinging broadcast his individual statistics, should not only endeavor to be accurate and specific, but should, above all, be truthful. If the temper of the times could be determined by the drift of periodical literature and individual observation, the pendulum was already on its return toward the conservative equilibrium. At a very early period of his investigation he had been particularly struck by the diversity of opinion and lack of uniformity in the experience of different operators as regards the primary mortality. He had endeavored to show and to prove that the fortunate experience of a few who appeared to enjoy the special protection of Providence could not be relied upon as a safe basis for generalization. He had found that in twelve hundred and seventy-three colpohysterectomies, by thirty-eight surgeons, both here and abroad, the average primary mortality was 14.6 per cent, in spite of the fact that the great majority of these contributors had been trying their hands at perfecting the technique of these operations for many years. The most favorable exhibit was that of two hundred and thirty-five operations by well-known surgeons, with the result that in twenty-seven per cent there was an average exemption of three years and four months, but nothing whatever was said of the fate of seventy-three per cent of the entire number operated upon! In the space of three years there had been one hundred and sixty-three vaginal hysterectomies for cancer done in one institution alone, and at the expiration of three years only twenty-five per cent were living. Of these, forty, or twelve per cent, were reported to be without a recurrence of the disease.

In his own experience with supravaginal excision with the galvano-cautery knife, forty out of sixty-three cases of cancer of the portio vaginalis (twenty-three having strayed away from observation) had had an average period of exemption of nine years, although in individual cases the period had been very much longer than this. One patient, operated upon in 1875, and a most unpromising case too, had been recently seen, and now, nearly twenty-one years after the operation, she was in perfect health. It was not surprising, therefore, that he had arrived at the conclusion that there was no legitimate place in surgery for colpohysterectomy, or the high or low amputation of the cervix, except when performed with the galvano-cautery. He claimed the following advantages for the galvano-cautery method which he advocated: (1) exemption from traumatism of the parts supposed to be sound; (2) an almost total annihilation of the primary mortality; and (3) prolonged immunity from recurrence.

He suggested the appointment by the President of the Society of a committee of three to investigate in one of our public institutions the question of the advantages of the galvano-cautery, and to report annually to this Society the results.

DR. R. S. SUTTON said that vaginal hysterectomy for cancer had been revived by Langenbeck. The uterus which he removed for supposed cancer in 1813 remained preserved in a jar until recent times, when it was examined microscopically and found not to be cancer. He was convinced from the histories of his own cases that occasionally we believed we had before us a very bad form of cancer of the cervix, when in fact cancer did not exist in that cervix. It was his experience that when cancer of the cervix existed beyond a doubt the disease recurred at a comparatively early period. He now made it a rule to harden and cut and examine microscopically every specimen, so as to be positive as to the diagnosis. The question of ligature or cautery must depend largely upon the pathology. For true cancer he thought it made but little difference whether the cautery or the ligature were used, for recurrence would be the rule in this country, where the operations were done late. In using the galvano-cautery the knife became coated with an albuminate, thus interfering with the conduction of heat and making the process very tedious. The same objection applied, though not to the same extent, to the Paquelin cautery; this form of cautery he had found extremely useful and much more rapid in its action than the galvano-cautery.

With reference to the extirpation of fibroids through the vagina, he said that he had become so thoroughly convinced of the superiority and facility of the Pryor or Baer operation for large fibroids that he could not be induced to give it up for morcellation by the vagina; but the matter was different in small fibroids. Two years ago he had been willing to remove the uterus with small fibroids by the vagina, but to-day he would prefer to do an anterior colpotomy, enucleate the fibroid, and return the uterus, if possible, to the pelvic cavity.

DR. J. E. JANVRIN said that his own experience showed that in about one-fourth of the cases of cancer of the uterus the disease began in the cervix. This would, of course, bar from this discussion the other three-fourths. He was not aware that any one had yet prepared statistics of vaginal hysterectomy for cancer beginning in the cervix. He thought Dr. Byrne had included in his comparisons the statistics of operations, not only of the cervix, but of the body, or of the two combined. He had had about sixty cases of vaginal hysterectomy, in sixteen of which cancer had begun in the cervix and progressed from there to the body or to the vaginal wall. He had last winter given in a paper his ultimate results in these sixteen cases—i.e., thirty-three and a third per cent (operated upon in periods varying from three years and four months to twelve years back) had been absolutely cured. There had been three deaths in his early cases, but none since then. His experience had been that when the disease returned in the cicatrix the

amount of pain had been very slight compared with the suffering which existed in the primary disease.

DR. W. H. WATHEN, of Louisville, said that he had had the pleasure of seeing Ségond perform three vaginal operations for disease of the adnexa, and had been particularly impressed with the simplicity of his operation. It was seldom, he thought, that more than one retractor was needed at a time, and that many operations could be completed easily without any retractor at all. They were a source of much danger. Where one side only was involved he believed that the diseased tube and ovary could be removed through the vagina as readily as through the abdominal incision, and with less danger and mutilation, and that it would be followed by a quicker convalescence.

DR. H. A. KELLY said that the vaginal sectionists had abandoned the conservative field in the treatment of the ovaries and tubes and of fibroids. It was not possible by the vaginal route to decide, as by the abdominal section, whether or not structures could be saved. In a recent case he had enucleated nine fibroids by as many separate incisions, which were sewed up and the organ dropped back. By the vaginal method the organ would have been removed. He thought we must abandon the vaginal field for carcinoma, because this disease could not be so effectively treated by the vagina as by abdominal section. This only left for the vaginal operation the treatment of adherent ovaries and tubes and cases of hydrosalpinx; and it was well known that the vaginal method was difficult and dangerous in inexperienced hands and was liable to be incomplete. There was one advantage by the vaginal method—i.e., that if the aseptic technique was faulty there was less danger to the patient. The abdominal method presented the same advantages as to cleavage if we followed the plan first published by Pryor—taking the easiest part first and the most difficult parts toward the completion of the dissection.

DR. ERNEST CUSHING said that he had followed Ségond's work quite closely, and had been amazed at first at the facility with which he treated disease of the adnexa. He had found that morcellation greatly simplified the operation, and he agreed with what had been said by Ségond regarding the danger of cutting the ureters by the anterior retractor if carelessly handled. The only two cases in which he had injured the ureter had been due to this cause. Where there was much pus and the patient was greatly weakened from sepsis, if the pus could be gotten out from below, he favored this route. This could be done more easily and safely than by the abdominal route. Where the uterus could be readily pulled down it was an easy matter to root out the tubes and ovaries. Where the uterus was adherent he would not, certainly, attempt the vaginal operation himself.

DR. MANN said that Dr. Kelly had laid down the rule that all cancer should be attacked from above, but it seemed to him that there were varieties of cancer and that we should be

guided in the selection of the route by this fact. In cases in which the vaginal wall and broad ligaments were not involved in the cancer he believed we could obtain better results from below. The same was true where the body of the uterus alone was involved and the organ was freely movable. But these cases represented only the minority, the majority being examples of cancer of the cervix. He thought the work of the various well-known surgeons showed that in these cases much better work could be done from above than from below. It was rare that the cases were seen early, and hence an extensive dissection would be required—such only as could be well done by abdominal section. His results by the abdominal route had been so good in these bad suppurative cases that he found it difficult to be convinced of the superiority of vaginal hysterectomy.

DR. THADDEUS A. REAMY, of Cincinnati, said that he wished to reply to Dr. Kelly. Dr. Kelly had insisted that a large number of cases were saved from radical operation of any gravity by drainage through the vagina. Dr. Kelly had objected to the vaginal operation on account of its being dangerous in inexperienced hands, yet the abdominal operation was undeniably very dangerous in the hands of beginners. Dr. Kelly had removed a number of fibromata from above by section, but these cases were not recommended as suitable for the vaginal operation. He thought the arguments of Dr. Kelly were fallacious.

DR. A. PALMER DUDLEY called attention to the fact that Ségond did not offer his method as a panacea—in other words, that he selected his cases, as we all do. He had been particularly interested in the warning given as to the dangers connected with the use of retractors. Jacobs severs the cervix from the vagina by the cautery, and hence it seems necessary to use a retractor in this method to prevent burning the tissues. The objection to the cautery was the slow healing; hence he was in favor of the method advocated by Ségond. Regarding the operations on cancerous uteri, he would say that when it was necessary to make such extensive dissections as Dr. Kelly described it was better to leave the patient alone without operation.

DR. BACHE EMMET said that he had found retractors very useful in vaginal hysterectomy throughout the whole operation. While he agreed that we should, as far as possible, work by the guidance of sight, there were cases where we could not do this. To facilitate such work he had devised a special clamp with long jaws, intended to embrace the entire ligament. Simply bringing together the distal ends of the blades of the instrument was sufficient to lock them. (The instrument was exhibited to the Society.)

DR. FLORIAN KRUG, of New York, said that only two years ago, at the meeting of this Society, there had been a controversy over the question of the removal of the uterus in suppurative disease, yet to-day he had heard not a dissenting voice

regarding the propriety of ablating the uterus where there was bilateral suppurative disease of the adnexa demanding their removal.

DR. FORD, of Utica, said that the men were not all dead who thought it worth while to speak of conservatism as regards the uterus. He had watched Ségond's work and could indorse the remarks made about it by Dr. Cushing. He had been impressed with the fact that Ségond, in his first paper, referred to the removal of the uterus in many cases for the purpose of gaining access to the diseased adnexa. Such practice had fortunately not gained much of a foothold in this country. Even admitting that the uterus was a useless organ, it should not be condemned simply on this account. He was glad to see that the tendency seemed to be to save the uterus. Regarding vaginal hysterectomy, he would say that in suppurative disease the early removal of the clamps sometimes allowed the escape of purulent foci, which was not the case with the ligature operation.

DR. HENRY C. COE, of New York, said that he hoped the discussion would not be closed until some notice had been taken of Dr. Byrne's paper. We had reached the time when we should begin to look for ultimate results, which was the burden of Dr. Byrne's paper. He had become a pessimist regarding the treatment of malignancy. In conversation recently with a surgeon in this city who had had a large experience with the removal of the breast for carcinoma, he had learned that out of four or five hundred operations this surgeon could only count thirteen cures. It was well known that, in the most radical operations for removal of the breast, outside of the supposed limit of the disease, even in the most extensive operations, small, suspicious nodules would be found which under the microscope presented groups of cells resembling, but not exactly the same as, carcinoma. Observation had shown that it was from such suspicious nodules that the disease returned. Some time ago Dr. E. C. Dudley had spoken in favor of clamps because of the sloughing process which they set up, and which served to destroy groups of cells beyond the incision made by the knife. If this were true—and he was inclined to believe it was—it was not improbable that the galvano-cautery had a value in this direction hitherto but little appreciated.

DR. S. C. GORDON said that while he believed that the best work had been done by Dr. Byrne, he had had no personal experience with it. In cancer of the uterus it was his practice to make an abdomino-vaginal operation, for the reason that he could much more readily remove the vaginal portion of the cervix through the vagina, and, if necessary, ligate the uterine arteries at this point. The operation could be completed by the abdominal route and the uterus drawn back through the vagina, thus avoiding infection of the tissues with the disease. He agreed fully with Dr. Coe that the operations for cancer of the uterus were very unsatisfactory, oftentimes only accomplishing the removal of a great deal of tissue which would

otherwise slough and cause much discomfort. Regarding the operation for fibroids, he must still maintain the superiority of the abdominal route. He could see little enough by that route, but much more than by the vagina.

DR. BAER, of Philadelphia, said that he was still operating from above, mainly for the reason that he believed it was not best to sacrifice the uterus because the appendages must be extirpated. He did not think we should sacrifice a healthy organ, and it was not true that the uterus was incurably diseased when the appendages are in this condition. Nor did he believe the uterus was a useless organ. If he could be convinced that the uterus were seriously diseased at the same time that there was extensive disease of the appendages, he thought he would begin operating from below. Another reason for not operating from below was that he felt it was important to retain the cervix.

DR. J. M. BALDY, of Philadelphia, said that in this discussion the only objection that he had heard made to the abdominal route was the abdominal scar. In contrast with this he would place the shortening of the vagina resulting from vaginal hysterectomy. The shortening amounted to one or one and a half inches, and he knew of two instances already in which this alone had broken up the happiness of the family. We had heard from Ségond of a large number of injuries to the bowel, bladder, and ureters—much more than were reported in connection with the abdominal operation. Moreover, if such an injury occurred during an abdominal operation it could be at once repaired. In hands less skilled than those of Ségond it was known that serious consequences had followed injuries to the bowel occurring in the course of the vaginal operation. In abdominal work drainage was unnecessary; in the vaginal operation it was absolutely essential. The after-treatment of the vaginal cases was very disagreeable and reminded one of the old days of surgery.

TREATMENT OF EXTRAUTERINE PREGNANCY.

DR. HOWARD A. KELLY, of Baltimore, read a paper with this title. The author said that in this paper he would advocate vaginal puncture for the removal of the products of conception and drainage, basing his plea for the method upon an experience in thirteen cases. The first case had been seen on October 27th, 1892—one of the intraligamentary form. He had made an exploratory laparotomy and had found a large sac and dense adhesions of the sac to the bowel. A free incision was made into the sac above Poupart's ligament and considerable fluid and clots removed. This incision was made while the hand was introduced through the abdominal incision as a guide. The patient made a speedy recovery. The second case had been seen on March 1st, 1893. In this case the sac filled the right posterior quadrant, where the peritoneum appeared to go from the brim of the pelvis on the top of the sac. He tapped the sac through the abdominal incision, thus allowing of the escape of

gas, and closed the puncture with two sutures. Through a free opening in the vault of the vagina he had removed clotted blood and fluid. For two weeks there was a discharge from the vagina, but the woman was well again by the sixth week. The third case was seen in November, 1893. There were such extensive adhesions that, in view of the bad condition of the patient, enucleation was considered impracticable. By careful bimanual palpation, with one hand in the abdomen and one in the vagina, he was able to outline the sac. A pair of scissors was thrust through the vagina into the posterior cul-de-sac and the opening enlarged to one inch in diameter. Débris and clotted blood were evacuated. The cavity was drained with gauze and the patient made a complete recovery.

The speaker said he had since operated upon ten additional cases. In none of these had there been any unpleasant sequelæ from the operation. One patient had been uremic and comatose for several days before, and died a few days after the operation. There was no evidence that the operation had had anything whatever to do with her death. The cases suitable for this treatment are those extrauterine pregnancies rupturing in the early months, including, therefore, the vast majority of all cases coming under our notice. Vaginal puncture and drainage were not suitable for an unruptured extrauterine pregnancy, or a recently ruptured one, or an advanced extrauterine pregnancy. The method was not to be compared with that employed in those cases in which suppuration had occurred in the sac, for the latter should be classed rather as pelvic abscesses. The cases in which there was a succession of ruptures from time to time were the most common of all. He thought that if this method proved to be successful much credit should be given to Herman, of the London Obstetrical Society, who, although he had not mentioned this particular class in his paper, had certainly not definitely excluded them. Speaking in detail of the method, Dr. Kelly said that a thorough bimanual examination of the gestation sac should be made and then the patient put in the lithotomy position and the vagina thoroughly cleansed. The sac should then be opened with scissors, the guiding finger being placed in the vagina against the sac. Care should be taken in doing this to follow the axis of the pelvis, otherwise there was danger of wounding the rectum. Pressure from above would often aid the operator in feeling the sac and guiding the scissors. The opening should be stretched to a diameter of three to three and a half centimetres. Should the peritoneum be opened, no harm would result if the sac were thoroughly cleaned out and efficient drainage established. Before packing the sac it should be washed out with normal salt solution. The packing should consist of sterilized gauze placed quite loosely in the cavity. After five to seven days the gauze packing may be dispensed with, except a little in the opening of the sac. In four cases out of thirteen he had opened the abdomen before evacuating the sac. The great advantage of this operation was that none

of the pelvic structures were removed, while the pelvic hematoma was opened and drained. All of the patients had been restored to perfect health and complained of no pelvic discomfort. Several of the patients were in such a condition that they could not have long survived an abdominal operation. The dangers of the operation were : (1) the possibility of a mistaken diagnosis ; (2) the risk of opening the peritoneum ; (3) the risk of fatal hemorrhage ; and (4) the liability of sepsis through the open vaginal vault. In all of the thirteen cases he had made a correct diagnosis, but he had also diagnosticated extrauterine pregnancy in two cases in which it did not exist. The greatest danger was hemorrhage, and it was rather surprising that this complication was not more frequently met with. It was probably because the vessels were filled with firm thrombi and all tendency to bleeding had passed. He reported one case in which the hemorrhage had been alarming and had been controlled with difficulty. The operator should, therefore, always be prepared to open the abdomen when he undertakes this method of treatment.

TREATMENT OF EARLY RUPTURE OF EXTRAUTERINE PREGNANCY.

DR. FERNAND HENROTIN, of Chicago, read a paper with this title. He said that in extrauterine pregnancy the ovum might be located in almost any part of the pelvis and by reason of its location give rise to the most complex symptoms. His remarks would be limited to those cases in which rupture took place prior to the second month. Clinical experience had led him to divide early ruptures into two classes—viz., (1) those in which there is complete rupture, with free, primary abdominal hemorrhage, and (2) those in which there is incomplete rupture into the broad ligament. The former generally occurs prior to the sixth week. It was not contended that these early ruptures were invariably complete. The diagnosis of complete, primary rupture prior to the seventh week was the diagnosis of intra-abdominal hemorrhage. The failure to observe the discharge of decidual membrane was not of much significance. The failure to detect a tumor near the uterus was also not of much importance. The question of leaving a considerable amount of blood in the peritoneal cavity after an operation of this kind was one requiring careful consideration. In an operation dealing with septic material the cavity should be left as free from blood as possible. In some of the acute cases it was impossible to remove the entire accumulation of blood. When there is no evidence of complicating septic conditions it is better to close the abdomen after the removal of the large clots, on the ground that the shorter the operation the less the shock, and that the less the manipulation the greater the absorptive power of the peritoneum. When, however, symptoms of sepsis were present the cavity should be cleansed as thoroughly as is consistent with the welfare of the patient. In desperate cases a large gauze drain might have to be employed. In mak-

ing the diagnosis it was well to remember that a woman who is suffering from progressive, uninterrupted hemorrhage to the point of exsanguination, after the first swoon remains conscious, and the pulse becomes steadily weaker until it can be no longer counted. Her face also remains constantly blanched, instead of, as in the fainting woman, flushing from time to time. The differentiation between the two conditions, of course, could not always be made, because the fainting woman might pass into a condition of profound shock or collapse. The pains of rupture are more likely to be successive but distinct attacks, accompanied by slight faintness and more or less shock, and leaving the patient well until free hemorrhage occurs into the abdominal cavity. In tubal abortions he would expect the pains to recur at short intervals up to the time of the escape of the ovum. Equally alarming symptoms might accompany either condition, and hence the importance of noting the distinguishing marks of these two conditions. If a woman with a few premonitory signs suddenly becomes faint, and, in spite of appropriate treatment, passes within a few hours into profound collapse, the diagnosis of rupture of an early extrauterine hemorrhage and a free hemorrhage into the cavity is almost certain. True surgery demands the ligation of every bleeding vessel, hemorrhage from which may cause loss of life. In cases of tubal abortion it might be justifiable to wait a little, but not so in rupture and free hemorrhage into the cavity. Great restlessness is a sign of the greatest importance as indicative of impending death from hemorrhage. Where a woman is bleeding to death rapidly from a large rupture, of course immediate abdominal section should be done and the bleeding from the rent controlled by two clamps. The hemorrhage could often be controlled in less than five minutes and the whole operation completed in fifteen minutes. During this time an assistant might be transfusing. He thought that many died from the time wasted in cleansing the cavity. If during the operation septic material were encountered in the abdominal cavity, or if the operator were not reasonably certain of the aseptic character of his manipulations, then, the patient's condition permitting, the abdominal cavity should be thoroughly cleansed and drainage established through the lower angle of the wound or through the vagina. If the patient's condition would not permit this a large gauze drain might be introduced. Cases of acute, primary, free abdominal hemorrhage should always be operated upon by the abdominal route.

DR. H. J. BOLDT, of New York, said that, if he had understood Dr. Kelly, he had referred to that class which we had been in the habit of considering under the head of intrauterine hematocele—a condition due to rupture of a tubal gestation. The treatment advocated in his paper was one that would probably not be very generally accepted. He had had one case of serious hemorrhage from such a puncture. He preferred scissors for making the puncture, and then the use of a Palmer dilator followed by a rectal dilator. This would avoid the dan-

ger connected with cutting, and the opening could be made large enough to admit the hand. Many surgeons would probably differ with Dr. Henrotin regarding the proper time for operating. Personally he would rather wait until the condition of shock had passed away. While he had been deeply interested in the differential diagnosis as laid down in the paper, he could not look upon it as absolute.

DR. WATHEN said that he believed the treatment advocated by Dr. Kelly was the correct one for that special class of cases. He had followed the same treatment with good results. He could not understand, however, why Dr. Kelly should fear that he would injure other structures in opening the hematocele, provided a small opening were made in the vaginal wall with scissors or knife and the dilatation of the opening completed with the finger. One of his special reasons for this treatment was that it did not disturb the overlying adhesions, and he hoped Dr. Kelly would extend this argument further and eventually become a convert to the vaginal operation for the treatment of pus cases. The opening of Douglas' pouch was the best method in cases of severe hemorrhage in which there was such profound shock that laparotomy would endanger life.

DR. MANN said that he regretted to say that his experience had not been the same as Dr. Kelly's. Within a short time he had had two cases with almost exactly the same clinical features—suppression of menstruation, evidences of a ruptured pregnancy, and the appearance of a hematocele filling the pelvis and appearing above the pelvic brim. In the first case he had opened the abdomen and found that the peritoneum had been opened, but that the blood clots had pushed the peritoneum forward and had made a sac which filled the whole pelvis. It was tied off by a small pedicle and removed, and the patient recovered satisfactorily. In the second case, as the peritoneum had been ruptured and the mass protruded into the vaginal cul-de-sac, he thought he would operate through the vagina. An incision was made with scissors, large enough to introduce two fingers. The fetus was quickly found and delivered, together with some clots and the placenta. Then there occurred a most frightful hemorrhage, requiring free packing and stimulation of the patient. The woman rallied temporarily, but died eventually. The autopsy showed a sac filling the pelvis and one which would have required an enormous quantity of packing to have completely filled. The autopsy also showed that the woman had had a similar attack two years before, and the remains were found in the form of a small tumor on the other side of the uterus, filled with inspissated blood and a fetus. Evidently Nature had taken care of this one.

DR. CHARLES P. NOBLE said that if the hematocele were suppurating it would be best to deal with it through the vagina, but he would hesitate to adopt this method, except in an old case, because of the reports of severe hemorrhages. He had operated upon twenty-five of these cases of extrauterine pregnancy from above with no bad results; hence he preferred the

abdominal method. He had operated upon five tubal abortions, and he wished to say that the description given by Dr. Henrotin for primary hemorrhage in the abdomen applied exactly to his cases of tubal abortion. The last case of tubal abortion that he had had was one in which the ovum was still in the tube, although the hemorrhage was into the peritoneal cavity. This woman had had three separate attacks at intervals of a week or more. A strong point against the vaginal method was that the ovum might be left in the tube, ready to excite another hemorrhage. Where the abdomen is filled with blood, unless the patient were very low, he would make a free incision, wash out the abdomen and leave a considerable quantity of the fluid in the abdominal cavity.

DR. A. LAPHORN SMITH said that his experience only comprised five cases, all operated upon by the abdominal method, but the results had been very satisfactory. He was sorry that such a brilliant abdominal surgeon as Dr. Kelly should waste his talents upon the vaginal route. He had no dread of treating extrauterine pregnancy by the abdominal method, but he would be filled with dismay if required to operate through the vagina.

DR. BAER also expressed his surprise and sorrow at hearing Dr. Kelly advise the vaginal method. The worst surprise he had ever had with hemorrhage was in an abdominal operation on a case of extrauterine pregnancy. In that case, had he been operating from below, death would have occurred before he could have opened the abdomen and controlled the hemorrhage. The conditions were much the same in extrauterine pregnancy as in disease of the appendages; hence if abdominal section were proper for the former he could not see why the vaginal method should be proper for the latter. In the majority of cases he had operated upon the patient had recovered from the shock of the hemorrhage before the operation. He had never seen a case of extrauterine pregnancy die from the hemorrhage.

DR. J. E. JANVRIN said that he did not think Dr. Kelly had made such a change as some of the speakers seemed to think. His remarks seemed to him in line with the removal of pus tubes or anything else which could be removed by the vagina. He was of the opinion that the first recognition of a ruptured tube was made in 1857, at which time abdominal incision was recommended to control the hemorrhage. In 1867 Dr. Stephen Rogers, of this city, had independently recommended an exploratory laparotomy in cases of hemorrhage from the uterine adnexa. Dr. Henrotin's remarks were entirely confirmatory of what had been recommended so many years ago. He had never operated upon a patient *in extremis*, although he had successfully operated in a number of cases in which the hemorrhage was still going on. Nothing had been said about the propriety of early operation, before rupture of the tube had taken place, but with early symptoms of hemorrhage. He had reported a case in which, after electrical treatment, there had been rupture of an artery over the gestation sac, and the pa-

tient had died from the hemorrhage before he could reach her. This had opened his eyes to the propriety of operating in cases in which there were symptoms of hemorrhage prior to rupture of the tube. Since the case referred to he had successfully operated upon two such cases.

DR. S. C. GORDON said that he believed he had the honor of doing the second successful operation for tubal pregnancy in the United States. That operation had been done fifteen hours after the rupture. The attending physician, finding profound collapse, had at once begun the hypodermatic administration of strychnia and had kept it up until the time of the operation. This was in 1887. He had had nine or ten such cases since then, and in every instance he had operated at periods varying from two weeks to eight months after the rupture. His experience justified him in the belief that the doctrine of operating during collapse was not necessary. He did not fear women dying from hemorrhage so much as did Dr. Henrotin. He would wait for reaction before operating.

DR. ASHTON said that he was decidedly in favor of the abdominal method of operating in these cases, because we desired to prevent further loss of blood, and this could be accomplished more quickly by abdominal section. The necessary irrigation of the vagina with hot water was in itself sufficient to increase the hemorrhage. He referred to a case which Dr. Kelly had operated upon by the vaginal route. According to her attending physician, an enormous quantity of blood had been removed and the patient had died a few hours later.

DR. JOHNSTONE said that nine years ago the same ground had been gone over. It seemed to him that there was not the same proportionate danger in the first one or two attacks of collapse as in the subsequent ones. Each succeeding attack increased the danger, so that his rule was that if there had been two or three prior attacks he felt that the case demanded immediate operation, for it was a desperate one in any event. The rule among general surgeons was never to operate in shock if it could possibly be avoided, and the same rule should apply in gynecological practice.

DR. WATKINS referred to eleven cases, in eight of which the vaginal route had been employed. He thought that in six of these the selection of the abdominal route would have been fatal, or the convalescence would have been exceedingly tedious. Of the six cases of large hematoma, such as had been described by Dr. Kelly, five were operated upon through the vagina. Three of them had been previously infected by curettage. In one of the cases a large tube was found on top of the hematoma. This was perforated by the finger and seven drachms of fluid evacuated, and the patient made a good recovery. He felt sure that an abdominal operation would have caused death in this case, because the patient was septic and in a very exhausted condition.

DR. ANDREW F. CURRIER thought three points required special consideration, viz.: (1) operation during collapse; (2) the

differential diagnosis; and (3) the method of operating. In his opinion the majority of persons operated upon in collapse would die; hence it was ordinarily safer to secure some reaction before operating. If the case presented shock and hemorrhage it made very little difference whether the case was one of ruptured ectopic gestation or ruptured ovarian cyst. From the reports of cases presented to-day it seemed to him unwise and improper for a surgeon to attempt to relieve a case of this kind by the vaginal method.

DR. J. TABER JOHNSON thought it was unsurgical to endeavor to resuscitate a patient from shock while hemorrhage was active, because the means employed for this purpose were those which would tend to keep up the hemorrhage. A number of cases had been reported in which death had occurred while the surgeon was waiting for the shock to pass off. It seemed to him that the only cases fit for the vaginal operation were those which had existed for some time—those formerly classed as pelvic hematocele, though produced by rupture of a tubal pregnancy into the folds of the broad ligament, with moderate hemorrhage. Such cases could be well treated by the vagina.

DR. BAER said that it had been stated that it was dangerous to operate during shock, and, by the last speaker, that it was safer to cut down and tie the bleeding vessel without waiting for shock to pass off. He would like to ask, therefore, whether the coroners' physicians of other cities had made reports similar to that published by the coroner's physician of Philadelphia regarding the number of deaths occurring during shock.

DR. KELLY said that it had been very correctly stated that it was the old subject of pelvic hematocele brought up under a new name. Ten or fifteen years ago a lively war had been waged by Dr. Thomas, of this city, on the treatment of pelvic hematocele. Regarding the case referred to by Dr. Ashton, he would say that the patient had albuminuria and was partially comatose at the time of the operation. She had improved for the first four days, and had not died for six days after the operation, and then apparently from uremia.

DR. HENROTIN, in closing, said that Dr. Baldy had reported in 1890 on some statistics collected from Dr. Formad, then the coroner's physician of Philadelphia, regarding deaths from extrauterine pregnancy. There was nothing novel about this; it was well known that many deaths occurred from extrauterine pregnancy. Generally speaking, it seemed to him if there were anything which should not be operated upon from the vagina it was extrauterine pregnancy. When such a sac became embedded in the pelvis and had gotten beyond the active stage, it was no longer an extrauterine pregnancy. If it were situated low down the vaginal method was appropriate; otherwise abdominal section was better. The mistake was sometimes made of making an opening simply because a large, boggy mass was felt through the pouch of Douglas, but in doing this the surgeon took the woman's life into his hands. Some of these cases did

well, but in others there would be excessive hemorrhage. The trouble was to determine whether or not there was a distinct limiting sac and whether the bleeding was still active. Under such circumstances it was safer to operate from above. Dr. Henrotin said that for sixteen years he had had a large experience in general surgery, and he had gotten beyond the point of waiting for shock before operating. Of course he would not think of operating upon a patient who exhibited that great restlessness which indicated impending death, but in many other cases of shock he would immediately proceed to operate. In one of the cases referred to in his paper no radial pulse could be felt for three hours and yet the patient recovered. It was to be remembered that the shorter the time between the beginning of the attack and the occurrence of severe collapse, the sooner must one make an effort by operation to control the bleeding, for any further delay would assuredly terminate fatally. He was firmly convinced that one could differentiate between the woman who was simply swooning and the one who was in collapse from exsanguination.

SUSPENSIO UTERI WITH REFERENCE TO ITS INFLUENCE UPON
PREGNANCY AND LABOR.¹

DR. CHARLES P. NOBLE, of Philadelphia, presented a paper with this title.

Third Day—May 28th.

DR. T. A. EMMET, of New York, said that he had seen Alexander operate a number of times, and had placed his finger in the vagina while the ligaments were being shortened by Alexander. He had at once perceived that the uterus when anteverted was at the same time prolapsed. It was not the degree of version that did the harm, but the degree of prolapse, and, as the uterus was drawn over by the shortening of the round ligaments, a prolapse occurred. This was necessarily the case from the insertion of the round ligaments. Recognizing this fact, he had never done Alexander's operation. As he was able to relieve all these cases by plastic surgery, he saw no occasion for Alexander's operation or for suspension of the uterus after opening the abdomen. No one, he believed, even at this time, should open the abdomen without weighing well the great responsibility of such a step.

DR. G. M. EDEBOHLS, of New York, said that the time had come when these various operations for displacements of the uterus should be tested, not by their immediate anatomical and therapeutical result, but by the higher standard of their influence on future pregnancies and childbirth. The Alexander operation had been found to have no deleterious effect on subsequent pregnancies, except to cause a slight dragging pain near

¹ See original article in the August number.

the ninth month. Vaginal fixation, young as it was, had been condemned by an appalling list of complications and difficulties in connection with subsequent labors. The operation of ventral fixation of the uterus occupied an intermediate plane. Quite a number of disasters had been reported after this operation — not so many as after vaginal fixation, but still enough to make us stop and consider the advisability of performing this operation on women during the child-bearing period. In his own experience there had been eight pregnancies and deliveries following ventral fixation of the uterus, and two of them had died, one of heart disease just before the commencement of labor, and the second died from the retention of a septic fetus for one and a half months. This woman had been delivered by Dr. Hanks and Dr. Coe, and they had told him that the death was in no way due to the ventral fixation. Dr. Noble had confused the statistics and had given the impression that there had been a larger number of deaths than had really occurred among his cases. When both tubes and ovaries had been removed he saw no serious objection to ventral fixation. Dr. Noble had sought to do away with the dangers of ventral fixation by a modification of the technique. The lower the attachment and the more secure the fixation the better the results from the gynecological standpoint, but the worse the results in case of subsequent pregnancy. But by attachment more anteriorly the immediate anatomical and therapeutical results were apt to be impaired by forcing away the uterus from the abdominal wall, although no doubt the results in subsequent pregnancies and labors would be better. Probably the best way was to attach the uterus in these cases squarely by the fundus, bringing the uterus up in a natural way to the abdominal wall, and fastening it where it would naturally rest without dragging on the lower attachment.

DR. KELLY said that he had done the first deliberate ventral fixation that had ever been performed, and he had therefore taken a deep interest in the operation. The indications were the existence of a retroflexion which could not be corrected or whose symptoms could not be relieved by non-operative means. He had sent out one hundred and twenty-five letters to facilitate the investigation of this subject, and had in this way heard from forty-six married women and twenty-eight single women who had been subjected to this operation. Out of the forty-six married women there had been thirteen cases of pregnancy. In only one of these had there been a labor that was at all difficult. This was one of his first operations, in which there had been sloughing and tremendous adhesions between the uterus and the abdominal wall. In cases where there had been no suppuration the adhesions consisted only of a long, delicate, fibrous band, so that it is not really ventral fixation, but a suspension. Such a uterus had all the movements of a normal uterus, but could not be retroverted. We should, therefore, distinguish between the different methods of operating. In those in which extensive adhesions were formed

between the uterus and the abdominal wall, there would in all probability be a mass left which would obstruct labor. He would insist that the proper method of performing this operation was the one which he had already described, and which he had used in upward of two hundred and fifty operations with most satisfactory results. His plan was to use two silk sutures, passed in the peritoneum and through the uterus just posterior to the ridge at the top of the fundus. It was not correct to say that the lower and firmer the attachment the worse for the patient, because in his cases he had fixed the uterus low and posteriorly, and yet the fixation had not been firm, and the patients had done well.

DR. A. LAPHORN SMITH said that he had performed this operation at Dr. Kelly's suggestion over fifty times. In only one case had any trouble followed from subsequent pregnancy, and in that one the woman aborted at the fifth month. He had had one failure, and in that case he had had a good opportunity of observing the condition present. He reopened the abdomen a year later for ventral hernia, and found the uterus lying back in the hollow of the sacrum, with a white cord, about the thickness of a penholder, running from the attachment on the abdominal wall back to the fundus. In this case the uterus was a rather heavy one and this support had not been sufficient. In this case he had used two silkworm-gut sutures, passing through the anterior wall of the uterus and through the abdominal incision. After this occurrence he introduced two buried silk sutures through the aponeurosis, then through the uterine wall, and out through the other aponeurosis or fascia. In only two cases had these buried silk sutures given any trouble. He thought Dr. Kelly's suggestion of taking in less of the abdominal wall would probably avoid subsequent trouble. He did not think it was well to use too coarse a suture. He not only sterilized these silk sutures, but soaked them in a saturated solution of iodoform in ether to insure thorough asepsis. In a few of the cases he had left in the ovaries and tubes, but, as Dr. Kelly had said, this operation was indicated only in those cases in which an Alexander's operation could not be performed; therefore he had done ventral fixation in cases in which there was extensive disease of the ovaries and tubes with firm adhesions. Some of these women, although they had suffered for years prior to the operation, had felt no further inconvenience after the ovaries and tubes had been simply raised to a proper position, and that, too, in cases where he had very reluctantly left the appendages behind.

DR. ASHTON said that he thought Dr. Kelly had struck the keynote of the subject. The statistics regarding the results of this operation are valueless because of the many different modifications of the technique. According to some methods a firm adhesion would be formed between the fundus of the uterus and the abdominal wall, and these cases must necessarily cause trouble in subsequent pregnancies and labors. The idea should be not only to suspend the uterus, but keep it tilted

somewhat forward. This could only be done by taking advantage of the peritoneal attachment of the new adhesion. He had operated upon a number of these cases, and had done a second operation on two of them for ovarian disease. In both of these secondary operations the adhesions had been found to be slender and about two inches long. There was not an adhesion in the pelvis at any point. If these sutures were carried through the muscular tissue, tied there, and buried, or if they were carried over the fascia and buried there, the uterus would be permanently fixed against the abdominal wall; but where the suture was passed through the peritoneum a long ligature or adhesions would be formed. Dr. Emmet had spoken of curing all these cases by plastic work and by pessaries, yet personally he had never seen a cure effected in this way, because the ligaments had all undergone degeneration by reason of stretching.

DR. HENRY D. FRY, of Washington, D. C., said that he had recently seen a woman who had had a ventral fixation performed in Baltimore. At the time he saw her she was about five months pregnant. It was found that the ventral fixation had been performed on her when she was about one month pregnant, and the pregnancy had not been interfered with by the operation. He had found, from the physician who attended her in confinement, that this labor had been easy, and that a living child, weighing six and one-half pounds, had been delivered after a few hours. This physician said that he had noticed no mass of muscle imprisoned at the brim of the pelvis. The speaker said that he had had occasion to do a ventral fixation on a woman, ten weeks pregnant, for incarcerated uterus. This had been done quite recently, but so far there had been no trouble from the operation. He had taken care in this case to stitch the uterus on the anterior surface, although in his previous operations he had closely followed Dr. Kelly's plan. He thought we should consider the interval which elapses between the ventral fixation and the labor. One of the strongest advocates of Alexander's operation in New York City had stated that he always cautioned his patients against becoming pregnant for at least a year after the operation. This was a matter which should be taken into consideration in collecting the statistics of ventral fixation and its relation to subsequent pregnancies. He thought there would be less liability to interference with labor if considerable time had elapsed after the ventral fixation in order to allow of sufficient time for the formation of the long, slender ligature which suspends the uterus.

DR. NOBLE, in closing the discussion, said that all respected Dr. Emmet's work, but most of us were unable to cure adherent retroversions by plastic operations. He would take exception to the statement of Dr. Edebohls that the lower and firmer the attachment the better the anatomical and therapeutic result, particularly as regards the firmness with which the uterus was fixed to the abdominal wall. The very fact that it was fixed made it abnormal. He felt that the term "fixation" had been

the bane of the operation. The term "suspension" was far better, as being more accurately descriptive of the condition which it is the object of the operation to secure. His present feeling was that if for any reason it was necessary to abandon this operation—which he did not believe—he would much prefer to try the operation proposed by Dr. Mann than he would to break up those adhesions through the vagina and then do an Alexander's operation. He saw no reason for performing suspensio uteri when the ovaries and tubes had been removed, as Dr. Laphorn Smith stated. It was much better to remove the uterus altogether.

THE DIAGNOSIS AND TREATMENT OF URETERITIS IN WOMEN.¹

DR. EDWARD P. REYNOLDS, of Boston, read a paper with this title.

IMPLANTATION OF THE URETER IN THE BLADDER.²

DR. H. J. BOLDT, of New York, read this paper.

DR. M. D. MANN said that he had been the first one to bring the subject of Dr. Reynolds' paper before the Society in its medical aspect. He had been particularly interested in the observation regarding the difference of the secretion from the kidney of the healthy and from that of the affected side. It might be explained possibly by reflex action. Another very important fact brought out in the paper was that the symptoms of ureteritis were mostly due to conditions of the bladder; that the irritation of the bladder around the mouths of the ureters was what caused the symptoms, rather than the condition of the ureter itself. This had been exemplified in one of his cases, in which there had been an extensive ureteritis with absolutely no symptoms of vesical irritation. The pelvis of the kidneys and the ureters were affected, as determined distinctly by vaginal examination, yet there was no incontinence of urine and no frequent desire for micturition. He had found that the treatment of the inflammation of the trigone of the bladder and the region around the ureteral orifices by applications of nitrate of silver would give more relief than anything else. This affection was often most distressing and hard to relieve unless one appreciated this fact. The speaker said that he had been a little slow about subjecting the ureters themselves to treatment. He thought he had seen good in one or two cases in which there had been a stricture in the mouth of the ureter. This had been relieved by the passage of a bougie into the ureteral opening. But it was another matter to resort to irrigations of the ureters, for there was great danger of infecting the ureter, causing traumatism, and in this way making the condition worse rather than better. The distinction made between the chronic and the acute cases was a good one. Most of the cases observed

¹ See original article, p. 19.

² See p. 844 of this JOURNAL for June,

were chronic, but acute cases occur not very infrequently, although often overlooked. Most of the acute cases that he had seen had followed labor, as pointed out by Dr. Skene. The acute cases coming on as a result of lithemia were often overlooked, and he felt sure that much of the pelvic pain experienced by women was due to irritation set up by an abnormal urine during its passage through the ureters. He recalled a young lady who had had many obstinate attacks of pain, which he had been unable to satisfactorily relieve until he had thoroughly appreciated this fact. His attention had not been called hitherto to the cardinal points—the points of tenderness described in the paper—but he would give this matter special attention in the future. The most important part of the treatment was that directed to improvement of the general health and hygiene. Some of the most obstinate cases could be cured by plenty of exercise, residence at various springs, and the free drinking of the water. Of course a long time was necessary to effect a cure, but it could be accomplished by properly regulating the habits of life.

DR. E. P. DAVIS said that he wished to add a word regarding the medical treatment of cases of ureteritis, and to call attention to the effect of certain narcotics and stimulants, notably tea, on the urine of women. Certain abnormal conditions of the urine he had found obstinately resisted all treatment until he had discovered that it was kept up by the use of tea—chewing tea leaves. In studying the metabolism of pregnant women and of women during the puerperium, he had found that the wave of elimination of urea became the lowest just before labor. The maximum was reached just after parturition. At times decreased excretion of urea meant renal insufficiency.

DR. A. LAPHORN SMITH said that the condition under discussion was a very important one, because many women suffer from it. Many of them in describing their complaint to the physician made a characteristic gesture—that is to say, they passed the finger from the back along the crest of the ilium and then downward and forward. He thought that ureteritis was a local disease, due to an abnormal condition of the urine. The treatment of ureteritis could be found by reading Dr. Mann's paper of last year on "Renal Insufficiency." Urea in itself caused no trouble in the genito-urinary tract, but when there was not enough oxygen to make urea the product was uric acid instead of urea, or, if still less oxygen, oxalic acid. These two products were very irritating. The remedy was to give these individuals exercise, stop overeating, and make them drink at least two quarts of water daily. Another point was to make the urine alkaline and bland by giving a drachm of bicarbonate of sodium daily. By attention to these points he was sure that there would be very little trouble in curing these cases, which otherwise were exceedingly troublesome and rebellious.

DR. REYNOLDS, in closing, said that there was great danger of making false passages in efforts to explore the ureters by

rigid instruments. He had been interested in what Dr. Mann had said about the advantages of local treatment of the ureters, because he had himself been a little afraid to try the method except in cases where there was pus in the kidney. The cases due to injury in labor were exceedingly interesting, but he was inclined to think that their course was somewhat different from those due to an abnormal and irritating condition of the urine. He had seen two or three cases in which the tenderness had been limited to the special points alluded to in the paper, but there was a large number of cases in which these points of tenderness would not be found unless one were looking for them. He had been deeply interested in Dr. Davis' remark about chewing tea leaves, for this was a novel dissipation to him, although we were all well acquainted with the deleterious effects on women of excessive tea-drinking. The administration of small doses of mercury he had found of the very greatest benefit in those rare cases of uremia in pregnancy in which the urine was abundant and the specific gravity low. He believed that so far our knowledge of these conditions was very elementary, and that we would eventually find that the ureteritis was secondary usually to disturbance of the kidney, and that the ureteral complication would be valuable in diagnosis.

(To be continued.)

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Meeting of April 1st, 1896.

The President, F. H. CHAMPNEYS, M. A., M. D., in the Chair.

The following specimens were exhibited :

DR. WILLIAM DUNCAN: Hematosalpinx with torsion of tube. DR. SPENCER: (1) Modified Ferguson's speculum; (2) A "skiagram" of a sireniiform monster; (3) Lantern slides illustrating his paper on deciduoma malignum. DR. GALABIN: (1) Myxosarcoma from urethra in a child; (2) Sarcoma of the cervix uteri; (3) Microscopic sections from material removed from the uterus after miscarriage (malignant?). DR. CULLINGWORTH: Ruptured tube and a three weeks' embryo from the sac of an old pelvic hematocele.

MR. MALCOLM read notes of a case in which a miscarriage at the sixth week of gestation was supposed to have taken place on September 28th, 1895. On December 20th the patient became very ill. She was admitted to the Samaritan Free Hospital and a perforation of the uterus was discovered. Death occurred on December 24th. *Post-mortem*: New growths were found in the uterus, right broad ligament, medi-

astinal glands, and lungs. Dr. Hebb reported that the growths were sarcomatous, and showed sections.

MR. ALBAN DORAN communicated (for Mr. Rutherford Morrison) a case of

DECIDUOMA MALIGNUM

occurring in England.

DR. HERBERT SPENCER read notes of a case of

DECIDUOMA MALIGNUM.

The author gave a full clinical history and post-mortem record of a case of this kind occurring in 1889—the first case, he believed, observed in this country. The disease occurred in a young Danish woman, 27 years of age, a IIpara, whose previous labor took place at the age of 20. The first symptom of the disease (passage of masses of the growth) occurred twenty-eight days after a normal labor which was followed by a normal puerperium. Subsequently there was a fetid discharge of masses of growth and of blood, and the disease ran a septic course, terminating fatally within ten and a half weeks of delivery. At the necropsy an ulcerated and gangrenous growth was found at the placental site, the ulceration and gangrene having nearly perforated the fundus. Secondary growth was also found in the cervix and in the lungs, but nowhere else in the body. The growth in all three situations is similar and is characteristic of deciduoma malignum, being apparently a large-celled sarcoma with the typical "syncytium." A full account of the microscopic appearances was given. The necessity of early diagnosis and treatment by vaginal hysterectomy was pointed out.

DR. EDEN read a paper entitled

DECIDUOMA MALIGNUM—A CRITICISM.

The author referred to the number of cases of malignant uterine growth occurring subsequent to gestation which have been recently recorded, mostly by German observers. The most important cases are those of Säger, Gottschalk, Marchand, and Whitridge Williams. Säger introduced the term "deciduoma malignum." He thought that in his case the tumor arose in the decidua and was composed largely of so-called "decidual cells." The author believes that cells precisely like those found by Säger occur in the uterus under various conditions and do not prove the origin of the growth in the decidua. Gottschalk believes that in his case the growth arose from a "sarcomatous transformation" of the stroma of retained chorionic villi. Whitridge Williams' case possesses the general characters of a sarcoma, tumors were present in the uterus, vagina, and vulva, and it is not clear which was the primary growth. He relies for his diagnosis upon the presence in the tumors of plasmodial masses which he believes to be syncytial in origin. Marchand records two cases, in both of

which he found similar syncytial masses ; he also claims to have found cells derived from the fetal ectoderm. In one case represented as a tubal gestation in a girl of 17, no anatomical evidence of pregnancy was discovered. The tubal mass may, therefore, have been a primary malignant growth. The author believes that plasmodia not unlike those figured by Williams and Marchand as syncytial masses are frequently found in sarcomatous growths in other parts of the body, and doubts whether there is sufficient evidence to justify the view that they arise from placental relics. The case recorded by Mayer is referred to, in which there seems to be proof of the origin of a malignant growth in retained myxomatous villi (hydatidiform mole).

REVIEWS.

DIAGNOSIS AND TREATMENT OF DISEASES OF THE RECTUM, ANUS, AND CONTIGUOUS TEXTURES. By S. E. GANT, M.D., Rectal Surgeon to All Saints', German, Scarret's, and Kansas City & Memphis Railroad Hospitals. etc., etc. With chapters on "Cancer" and "Colotomy" by H. W. ALLINGHAM, F.R.S.C., England. With 16 colored plates and 115 woodcuts. Pp. 390. Philadelphia: F. A. Davis Co., 1896.

The study of diseases of the rectum as a specialty has given an impetus to the writing of books upon this subject. It is refreshing to review one that is not padded with the curiosities of history and the "wonderful cases" of the author.

Outside of a few subjects, there has been no great advance in the pathology or diagnosis of rectal diseases in the past few years. The progress has been in the line of new methods of examination and operation and the modified technique of the older operations. The author of the present work has recognized these facts, and contents himself with brief allusions to the old disputed questions of "a third sphincter," the "semilunar pockets," "the functions of the levator ani," etc., and devotes his space to a practical description of the modern methods of treating diseases of the rectum.

He has not brought forth any startling new or original doctrines, but he has presented the subject as it is understood and practised by the best specialists in this line at the present time.

In our own opinion Dr. Gant is too much inclined to radical operations and pays insufficient attention to conservative treatment of diseases of the rectum ; but in this he is following the path blazed out by the majority of teachers in this line, and will be in good company when the reaction from too much surgery comes. In those portions of the book written by himself there is a broad view of the field and due consideration is given to the views and methods of those with whom he

differs. As much cannot be said for the part written by Dr. Allingham. As an article on colotomy this section is an eminent success, but as a treatise on cancer of the rectum and its up-to-date management it cannot be said to be so. However little he may believe in the sacral methods personally, it would have shown a broader view to have given a good and fair description of them as the only ones that offer any possibility of cure, and when they fail in this are at least as palliative as colotomy. Granting the increased immediate danger to life, the chance of permanent cure is one which few patients will fail to take. The opinion of American surgeons is not expressed by Dr. Allingham, and we regret to have it appear as being so in an American book.

With these few points of exception, Dr. Gant has presented a most excellent and practical work, and we bespeak for it a wide circulation.

THE DISEASES OF CHILDREN, MEDICAL AND SURGICAL. By HENRY ASHBY, M.D. London, F.R.C.P., Physician to the General Hospital for Sick Children, Manchester; Lecturer and Examiner in Diseases of Children in the Victoria University; formerly Lecturer on Physiology in the Owens College and in the Liverpool School of Medicine; and G. A. WRIGHT, B.A., M.B. Oxon., F.R.C.S. England, Assistant Surgeon to the Manchester Royal Infirmary, and Surgeon to the Children's Hospital; Examiner in Surgery in the University of Oxford; Corresponding Member of the American Orthopedic Association. Third edition. Edited for American students by WILLIAM PERRY NORTHRUP, A.M., M.D., Adjunct Professor Diseases of Children, Bellevue Hospital Medical College; Attending Physician New York Foundling, Willard Parker, and Presbyterian Hospitals; Consulting Physician New York Infant Asylum; Member of the Association of American Physicians. Pp. xxiii.-840. 200 illustrations. New York: Longmans, Green & Company, London and Bombay, 1896.

Ashby and Wright's treatise has been favorably received on this side of the Atlantic, and it is with great interest that we take up the third edition. Although the book has been reviewed before, it is of interest to look at it in the light of a new work, as all new editions should be considered. This edition has been thoroughly revised, and some of the sections, more especially those on infant feeding, anemia, and chronic heart disease, have been almost entirely rewritten. There are thirty-seven chapters besides an appendix and formulæ. The new edition has sixty pages more than the one that preceded it.

The first chapter is on the physiology of infancy and childhood. The second and third take up the subjects of the diseases incident to birth, hygiene, and diet. The observations of Preyer are quoted and Sottmann's experiments are mentioned. The readiness with which the newly-born infant becomes convulsed is one of the most remarkable features in early life. The mor-

tality in England is 149 in 1,000 for the first year of life and 263 in 1,000 for the first five years, but there is some lessening of this mortality year by year. Among the most frequent causes of death are tuberculosis, meningitis, diphtheria, and malformations. The diseases incident to birth, such as asphyxia, apoplexy, cephalhematoma, obstetrical paralysis, icterus, etc., receive careful attention.

The most convenient substitute for human milk is the milk of the cow. The richness of milk is influenced in various ways—by the materials upon which the cows are fed, the length of time during which they have been in milk, and also by the breed. The principal points to be noted are as follows: (1) the excess of proteids in cow's milk, and the excess of caseinogen over lactalbumen as compared with woman's milk; (2) smaller quantity of lactose in cow's milk; (3) the fat is, probably, higher in woman's milk; (4) the ash is greater in cow's milk; (5) by the time the cow's milk reaches the consumer it is slightly acid and contains numerous bacteria, while woman's milk is supplied direct to the infant and is alkaline and sterile. Cream mixtures, as advocated by Meigs, Rotch, and other observers, are recommended, but care must be observed that the average quantity of cream does not vary. Peptonized milk is not considered safe for a long period of feeding, because it is apt to cause anemia and weakness. Where milk can be obtained absolutely fresh and uncontaminated from healthy cows, and it is consumed at once, sterilizing processes are not necessary. It is not safe, however, to trust to the usual milk supply. Various pathogenic bacteria may be present in milk, either derived from disease in the cow or from sewage or other contamination entering the milk. Tuberculosis, diphtheria, scarlet fever, typhoid fever, and other diseases may be spread through contaminated milk. There is good evidence that these pathogenic bacteria cannot withstand a temperature of 70° C. if continued for half an hour. The success of the sterilizing process largely depends upon getting the milk fresh and clean and consequently containing few bacteria and no spores. The milk suffers somewhat by sterilization, but not enough to militate against its use in almost all cases. In this country we rather prefer pasteurization and regard it as sufficient. Condensed milk should never be used for many months together; the cheap brands of this tinned milk are always deficient in fat. It must not be forgotten that infants may put on fat, which naturally adds to their weight without their being necessarily strong and healthy.

The diseases of the digestive system are given five chapters. Besides the ordinary diseases of the enteric tract, adenoids, tonsillitis, perityphlitis, hernia, harelip, and branchial fistula are described in connection with the parts that they affect. Inspection of the cavity of the mouth and fauces in infants and children is of great importance, and mistakes in diagnosis are exceedingly likely to be made if it is neglected. The interference with dentition by disease is noted as an important feature of

imperfect nutrition. The mysteries of dentition should always be looked for in some other part of the body, unless the physician can convince himself that the teeth are really the source of trouble. Children are very liable to tonsillitis in its broadest sense, and this is in harmony with the fact that the lymphatic system during childhood is extremely active and especially prone to inflammation. All these cases of tonsillitis should be isolated.

Acute intestinal catarrh, also called cholera infantum, always ranks as a serious disease, not only from its tendency to prove fatal during the attack itself, but because it so frequently passes on into a subacute or chronic form of catarrh, to be succeeded by atrophy. A summary of treatment is given as follows: Place the child in the coolest room of the house, and sponge frequently if there is much fever. Stop all forms of milk food, giving barley or arrowroot water with white of egg, and veal broth; if there is much vomiting stop all food for some hours. Apply hot fomentations or counter-irritation to the abdomen. Give castor oil or calomel till all undigested food has disappeared from the stools, and then salol, zinc, bismuth, or carbolic acid. Later, if there is much restlessness or colic, give opium by the rectum. In severe cases brandy or other stimulant will be required, but it is apt to cause vomiting. In infants at the breast lessen the quantity of milk taken and give some barley water.

Acute gastro-enteritis, ptomaine poisoning, is described as due to the bacillus enteritis of Gärtner. Dilatation of the stomach is no doubt more frequent than is recorded, and examinations of artificially-fed infants will convince physicians that dilatation is not so rare as has been supposed.

Perityphlitis, or appendicular peritonitis, is a subject of extreme interest. In the majority of instances it is now well recognized that in most cases the mischief begins in an inflammation of the appendix, due either to retained secretion or to some solid matter. The diagnosis is not always easy in young children, as the same symptoms may be present when there is an accumulation of hardened feces in the cecum. As acute purulent peritonitis is almost certain to be fatal if it becomes generalized, it is of the utmost importance to provide an opening rather than to allow it to become general peritonitis. Although the phraseology of these descriptions is different from that of American articles on the subject, the expressions are clear and the terms used are perhaps rather more satisfactory than a generalization under the head appendicitis. Chronic purulent peritonitis, whether tubercular or not, should be treated by incision and drainage.

A short but satisfactory chapter on diseases of the liver ends the subject of digestive diseases.

There are two chapters on the diseases of the respiratory apparatus, but the chapters are a good length and the descriptions are not curtailed. The opening paragraphs give valuable suggestions as to the method of examining the thorax and what is to be noted.

With membranous laryngitis we have the question, "Is it diphtheritic?" In the present state of our knowledge it is not wise to take a dogmatic position, except in so far as to view every case of laryngitis, whether we find membrane or not, with the greatest suspicion, as all such cases may turn out in the end to be diphtheria. Tracheotomy is regarded in a friendly light, while intubation is said to have a limited field of usefulness. The latter operation is considered best adapted for cases where there is little or no false membrane. In this country the advantages of intubation are better appreciated and the field of tracheotomy is steadily narrowing.

An empyema is to be treated surgically. As soon as pus is diagnosed in the chest, arrangements should be made to evacuate it, and this, in the vast majority of cases, should be done by free incision and drainage.

One chapter of almost seventy-five pages is devoted to the specific fevers. Scarlet fever, measles, r  theln, diphtheria, whooping cough, and malaria are some of the diseases described. Recent observations clearly show that other micro-organisms besides the Klebs-L  ffler bacillus are capable of producing fibrinous exudations on the fauces. and, moreover, the Klebs-L  ffler bacillus has been demonstrated in the secretions taken from what were apparently non-membranous sore throats. We must, however, view these latter cases as suspicious. The serum treatment is stated as likely to be permanent. While no directions can be given as to the dose, no evil effects of antitoxin have been noted. Evidently broncho-pneumonia is not observed in England, as it is here, in a large percentage of cases after antitoxin treatment. The tincture of the chloride of iron is given preference over the mercuric chloride.

Epidemic influenza is a disease hard to describe because of the variability of the symptoms. The article, however, gives the prominent symptoms and makes mention of their depressing influence. As long as the fever lasts the diet should consist of fluids. Phenacetin, antipyrin, and antifebrin are the drugs generally used.

The diagnosis of a typhoid fever in young children is not always easy. As it is a difficult thing to make a positive diagnosis in early life, we naturally look for the Eberth bacillus in the blood and urine, but we fail to find any opinion as to the value of the detection of the bacillus in typhoid cases.

The wisdom of quoting Holt's observations on malaria in children is to be doubted, as the disease rarely presents the remarkable peculiarities recorded by that author. The plasmodium malariae is not mentioned.

Chapters XIV. and XV. are on the diseases of the circulatory system. Pericarditis, endocarditis, nevus, aneurism, and other derangements of the circulation are well described.

The section on chronic heart disease is largely rewritten, and the analyses are made from the results of forty-one post-mortem examinations. Although the results of such observations are extremely valuable, we have also to bear in mind that in child-

hood we constantly encounter adventitious sounds over the cardiac area which will disappear with the subsidence of a fever which may be their cause. Often an initial systolic murmur is so well transmitted to the base of the heart that a doubt may be raised as to whether there is aortic stenosis.

Paroxysmal hemoglobinuria, Raynaud's disease, is briefly described. Anemia and other diseases of the blood and blood-making organs have a short chapter devoted to them.

Tuberculosis, as a general disease, is defined as affecting the glands, skin, bones, and other tissues. The word "scrofulous" or "strumous" is omitted almost entirely, as it is believed that lesions usually designated by one or the other of these terms are identical with tuberculosis or that they are varieties of tuberculosis.

Rickets is a disease that usually appears during the first two or three years of life; it is characterized by chronic indigestion, deformities of the bones, weakness of the muscles and ligaments, and various peculiar nervous disorders. The nutritive disturbances of rickets should not be overlooked, but unfortunately physicians do not seem to realize their severity and the resulting damage to the system at large.

The difficulties of diagnosis in nervous diseases of early life are much greater than in adults. For instance, in children it is difficult to estimate pain. The nervous system of a young child is easily upset by a high fever or a poisoned state of the blood. Meningitis is much commoner in the young than in the old, and it assumes in consequence a position of great importance. "As soon as a diagnosis of tubercular meningitis is made there is little hope of recovery. In any case the hope must be rather that our diagnosis is wrong than that permanent recovery can take place from tubercular meningitis." There is no doubt, however, but that the disease does not always kill at once. Successful treatment by drainage has been recorded, but the authors have not seen the cases. Ranke's treatment of chronic hydrocephalus by puncture and injection of iodine is not indorsed. In this country it has never given any degree of success.

Diseases of the genito-urinary system have two chapters for their description. The first chapter gives a satisfactory description of congenital anomalies of the kidneys, tuberculous kidney, renal calculus, acute nephritis, acute parenchymatous nephritis, and chronic nephritis. Stress is laid on the necessity for a constant supervision of children who have had acute nephritis. There may be an albuminuria that is intermittent, and in consequence a slight kidney affection is liable to be overlooked.

Chapters XXVI.—XXXIV., inclusive, are surgical. From the nature of the book these articles are short, but few of them lose by their conciseness. Diseases of the bones, of the joints, clubfoot, tumor growths, and diseases of the thyroid and thymus glands have special chapters.

The chapter on tumor growths in childhood is eminently satisfactory.

Injuries, shock, hemorrhage, etc., are given proper attention in short paragraphs that attract attention by their concise descriptions.

Dr. Alexander Wilson contributes the chapter on anesthetics for children. He states that ether is less depressing than chloroform, which is not always the safe and desirable anesthetic it is represented to be.

The appendix is by the editor, Dr. Northrup. Welch's conclusions as to the satisfactory results from the antitoxin treatment of diphtheria are quoted and are evidently accepted by the editor. The subject of intubation is extended and elaborated. Modified milk and pasteurization are given two or three pages. The sterilization of milk, which was described in the former edition, is omitted, and Freeman's pasteurizing apparatus is the only one shown. It is true that pasteurization is proving more satisfactory than the higher heat of sterilization, but it does not seem wise to leave out the latter subject. A number of ready-made prescriptions end the book.

Considered as a treatise of small size, this work is one of the best and safest for the general reader, either physician or student. The bulk of the book by the English authors contains very few articles that are not acceptable from the standpoint of American experience. Almost all of the chapters are up-to-date, and subjects which are not regarded as wholly settled are treated *sub judice*. The appendix is almost unnecessary, as the elaboration of subjects is entirely foreign to the style of the body of the book, and the opinions expressed could either be added as foot notes or condensed into short paragraphs. The book is well printed in small type with heavy-faced letters for the headings. The woodcuts are well executed and are much superior to the average photographs now so popular for illustrations.

Z.

LEHRBUCH DER GYNÄKOLOGISCHEN DIAGNOSTIK. By DR. GEORG WINTER, Extraordinary Professor of Gynecology, and Physician-in-Chief to the Royal Clinic for Diseases of Women in Berlin. With the collaboration of Dr. CARL RUGE in Berlin. With 2 plates and 140 drawings in the text. Pp. 455. Leipzig: Published by S. Hirzel, 1896.

This text book written with the collaboration of Carl Ruge can be commended in the highest terms, although it contains nothing which should be new to the specialist. Its style is careful and concise, and the work is in every way modern with the exception of one chapter. The text is sufficiently illustrated by drawings and photomicrographs. In the chapter on special diagnosis the statement is found that the normal glands of the uterine mucosa are surrounded by fine, spindle-shaped connective-tissue corpuscles—a view which we consider erroneous, as we believe this structure to be muscular. In the chapter devoted to extrauterine pregnancy attention is called to the important and not sufficiently appreciated fact that tubal pregnancy may occur and rupture of its sac take place without the

omission of a menstrual period. The varieties of ectopic gestation are carefully dealt with, and the difference between the decidua of the early and that of the late months of pregnancy is given full consideration. When speaking of positions of the uterus the author contradicts himself by calling the normal position "moderate anteversion," whereas later the view that it is an antelexion is seemingly accepted. Attention is called to the abnormal shortness of the anterior vaginal wall as a cause of irremediable retroversion of the uterus. The course of the round ligaments, as palpated immediately above the horizontal rami of the pubis, is fully described as aiding in the diagnosis of the direction of growth of a fibromyomatous tumor. It is our experience that this palpable sign is infrequently found with any certainty. We regret to see in a work of such prominence the retention of the old definition of "recurrence" as applied to cancer of the uterus, especially as we know that the author appreciates the difference between a true recurrence and a progression of the neoplasm. We should have expected to see a bold stand taken upon this point. The chapter deals with all varieties of malignant neoplasms in a systematic manner. Under the head of tubal disease a separate section is made of "tumors of the adnexa," by which is meant, in contradistinction to the well-defined retention tumors, smaller swellings situated beside the upper part of the corpus uteri, composed of the thickened and rolled-up tube, the enlarged and inflamed ovary, agglutinated omentum and intestine, and masses of exudate between the peritoneal adhesions. The chapter on the diagnosis of the diseases of the urinary organs is greatly marred by the section on cystoscopy, which speaks only of the employment of the Nitze and Casper cystoscope, omitting entirely the infinitely superior method of direct illumination of the female bladder as inaugurated by Kelly. This, however, is the only portion of an otherwise most valuable book deserving adverse criticism. The indirect illumination can in no way be compared with the direct method, and pupils should be taught only the best. **BOLDT.**

TRANSACTIONS OF THE FIRST PAN-AMERICAN MEDICAL CONGRESS, held in the City of Washington, D. C., U. S. A., September 5th, 6th, 7th, and 8th, A.D. 1893. In two parts. Washington: Government Printing Office, 1895.

The Transactions of the First Pan-American Medical Congress form two ponderous volumes of over eleven hundred pages each. They contain an account of the organization of the Congress, proceedings of the general sessions, and those of the twenty one sections into which the Congress was divided. The volumes are well illustrated and contain a large number of colored plates. The section on obstetrics occupies one hundred and fourteen pages, that on gynecology and abdominal surgery covers one hundred and fifty-nine pages, while eighty pages are filled by that relating to diseases of children. Owing to the large number of papers presented it is impossible to notice them

individually. Many of the articles on obstetrics and gynecology have appeared in the numbers of this JOURNAL for November and December, 1893, and January, 1894. The section on diseases of children contains half a dozen articles on infant feeding, several on gastro-intestinal disturbances, and other papers of interest.

H. D.

BRIEF OF CURRENT LITERATURE.

OBSTETRICS, GYNECOLOGY, AND ABDOMINAL SURGERY,
IN CHARGE OF THE EDITOR AND DR. JULIUS ROSENBERG.

PEDIATRICS,
IN CHARGE OF DR. A. RAYMOND-SCHROEDER.

OBSTETRICS.

Abortion.—E. W. Cushing¹ urges a united stand on the part of the medical profession against the performance of abortion, and education of the community as to its criminality in the case of married women as well as of the illegitimately pregnant.

C. M. Green¹ thinks that criminal abortions might become much less frequent if reputable physicians would refuse to treat any woman who had knowingly and wilfully put herself into the hands of an abortionist.

Twombly¹ advises avoidance of the after-treatment of criminal abortions, but thinks it justifiable to aid such a case if it is conscientiously possible. In such event it is advisable to be protected by consultation with a trusted practitioner.

Cumston¹ refers to the common neglect of *after-treatment of miscarriages*, and thinks that they demand even more care than a normal confinement.

C. K. Fleming¹ says that in cases of inevitable abortion, after rapid dilatation of the cervical canal the uterus should be thoroughly curetted, particularly in criminal cases. He favors carrying a narrow strip of gauze to the fundus for drainage, to stimulate the uterus to tonic contraction, and to prevent possible union of opposed denuded surfaces.

Pregnancy and Cancer of the Uterus.—W. J. Sinclair¹ reports a case of cancer of the uterus complicated by pregnancy, with recurrence after vaginal hysterectomy. This operation is advised in cases in which the uterus is small enough to be so removed unopened. When more advanced, labor must first be induced. In cases at term spontaneous delivery, even though labor is prolonged, gives the best result for the mother, but the fetal mortality is high. If delivery cannot occur without operation the Cesarean section gives the best results for mother and child.

A. H. Cordier¹ believes that as early hysterectomy will cure a number of cases, all cancerous pregnant uteri should be removed when seen early.

Eclampsia.—H. H. Levy¹ is adverse to the induction of premature delivery and prefers the expectant plan of treatment. When, however, convulsions appear at term, he would emphasize the great value of prompt and copious venesection (not less than twenty to twenty-four fluidounces).

J. F. Winn¹ urges prophylactic measures promoting free action of skin, kidneys, and bowels, with weekly examination of the urine during the latter months of pregnancy, and a milk diet when the first trace of albumin appears. Hot baths and drastic purgatives when uremic symptoms are severe. These failing, labor should be induced quickly by manual dilatation, with multiple incisions if haste is required.

J. W. Long¹ advocates emptying the uterus if convulsions are present. When they are imminent it should be emptied more gently, labor being induced by Barnes' or McLane's bags or a cervical tampon of gauze.

J. Michaux¹ emphasizes the importance of free catharsis and objects to morphine as locking the eliminative organs.

B. H. Nanavatty¹ narrates a case of eclampsia during delivery. The latter was prevented by a narrowed conjugate at the brim and firm ossification of the large head, so craniotomy was performed. The patient remained completely unconscious, with retention of urine, for seven days. No albuminuria. Recovery.

In a communication to the General Scientific Congress of Chili, A. Murillo¹ reports sixty-six cases of eclampsia as occurring at the Maternity of Santiago between the years 1875 and 1895. Of these thirty-two recovered, thirty-four died. One case of eclampsia occurred in every three hundred and twenty-four parturients, and one post-partum eclampsia in each one thousand five hundred and thirty-one. Primiparæ constituted the majority of those attacked. The mortality was less in eclampsias following parturition than in those taking place during labor. No case was observed in which the appearance of the convulsions was delayed more than seven days after labor. The disease was more common in the autumn and winter than during the summer months. In the treatment of eclampsia he recommends milk diet, local bleeding, hypodermatic injections of salt solution, hot baths, and chloral and pilocarpine where the arterial tension permits. The prognosis usually bears a relation to the number of convulsions.

Hyperemesis of Pregnancy.—F. A. Butler¹ treated with success a case of severe hyperemesis of pregnancy by hypodermatics of strychnine, with rectal alimentation, when all other measures had failed.

Le Demany¹ reports a case of uncontrollable vomiting beginning at the sixth week and necessitating abortion. This caused temporary aggravation, hence he says that abortion in such a case should be conducted rapidly, completely, and with strict

antisepsis, as the low condition of the patient may render slight hemorrhage or sepsis fatal

Dolérís " has known the vomiting to cease after the third application of electrodes when the battery was not working, so thinks they acted by suggestion.

Hemorrhage during Early Months of Pregnancy.—A. Routh " calls attention to the fact that a pregnant woman need not necessarily have amenorrhea. It is possible for a woman to be pregnant several months and yet be regular, or approximately so, or else have metrorrhagia. So much is this the case that it would be safer, if a married woman complains of irregular hemorrhages every day or every few days, to assume that she is pregnant until this can be excluded. This mental reservation is often advisable in cases of unmarried women before the menopause, for they may have special reasons for deceiving.

Placenta Previa.—A. C. Roberts " briefly reviews the subject of placenta previa and appends the report of a case in which he delivered the woman of a still-born child.

Porro's Operation for Obstruction to Labor by Uterine Fibroids.—G. Elder " records the successful performance of Porro's operation for complete obstruction to labor by uterine fibroids which had caused no symptoms before pregnancy.

Rupture of the Uterus.—Accidental rupture of the pregnant uterus is reported by T. A. Ashby " as successfully treated by hysterectomy. Eight inches of intestine were resected, as the ileum had also been wounded.

Rein " reports a case of complete rupture of the uterus during labor as cured by laparotomy and amputation of the uterus.

Two cases of spontaneous rupture of the pregnant uterus are recorded by Chéron. "

S. Wilkinson " reports a case of rupture of the uterus. Finding the woman bleeding severely from central placenta previa, he drew down the feet into the vagina, under chloroform. As the pains did not come on he delivered the head, at which time the rupture probably occurred. Chloroform was given only at intervals, and was stopped before delivery of the head. The patient rallied, then became restless, and hemorrhage began, followed by death in twenty minutes. The papers reported the case as "Death under Chloroform." The editor of the *Lancet*, in an appended note criticising the reckless allegations of the public press, makes the following statement, which appears open to criticism: "Looking at the facts of the case, it may be questioned whether, having brought the leg down, it would not have been better to have waited, giving ergot meanwhile, until pains came on, which must have happened sooner or later." 4

Ectopic Gestation.—A systematic résumé of the present views of the etiology and pathology of ectopic gestation is given by W. H. Rumpf. "

C. S. Bacon " gives a summary of the important points in the diagnosis of ectopic gestation and its differential diagnosis from normal pregnancy, retroflexion, fibroids and tumors of the appendages. He emphasizes the necessity of preparation

for immediate operation before making an examination, in view of the possibility of causing a rupture.

L. J. Pritzker¹¹ deprecates the expectant plan of treatment, as endangering the woman's life; the electrical, as uncertain in results, liable to cause or hasten rupture of the tube, and, if successful in destroying fetal life, leaving a mass which may suppurate. Injections of morphine or other poisons into the fetal sac are condemned because of the dangers of toxic effect on the mother, perforation of a vein, introduction of septic material, and retained mass of debris. He advocates abdominal section and outlines the technique of various operators. Closure of the abdomen without drainage has been successful in all his cases, while suppuration occurred in two of the cases in which drainage was employed. When necessary to leave the placenta in the abdominal cavity he would, however, hesitate before closing the wound completely. He adds the report of a successful case from his own practice.

C. N. Smith¹² urges the prompt performance of abdominal section, with ligation of vessels and extirpation of the tube, in cases seen prior to rupture or abortion. In all cases of tubal abortion accompanied by appreciable hemorrhage, operation should be instituted. In any case where life exists after primary intraperitoneal rupture with severe hemorrhage, the abdomen should be opened immediately and bleeding vessels secured. When hemorrhage has nearly or quite ceased, but never before, infusions of normal salt solution should be employed, and strychnine hypodermatically. He believes, in opposition to the opinion of Tait, that an intraperitoneal hematocoele may become circumscribed. When such a condition can be differentiated from a broad-ligament hematoma operation is indicated—preferably the abdominal, in view of adhesions and diminished danger to the intestines. Primary extraperitoneal rupture rarely demands immediate operation, but should be examined at short intervals to determine whether the hematoma is increasing. If growth of the fetus is demonstrated operation should be at once performed, to avoid the dangers of a late operation or of secondary intraperitoneal rupture. The method is described. Secondary intraperitoneal rupture occurring soon after primary should be treated as is the latter; when occurring later the same methods should be employed as in a late case of extraperitoneal gestation without rupture. While a dead fetus may remain safely, it rarely does so without causing annoyance or pain, requiring operation eventually. Even after years it may be infected and suppurate. Such a case is best treated by vaginal incision.

Four cases of ectopic gestation, diagnosed and successfully operated upon before rupture, are reported by B. MacMonagle,¹⁴ who thinks an exploratory incision justified when there is a reasonable assurance of an ectopic pregnancy. Removal of tube, sac, and contents, as soon as arrangements can be made for a careful and perfectly aseptic operation, gives the best results, but rupture into the peritoneal cavity with hemorrhage

demands operation at once. The suprapubic is the better in a large majority of cases, but the vaginal should be chosen when one feels sure that the mass is well walled off from above and can be easily reached from the vagina. In doing the vaginal operation one should be prepared to complete it from above in case of complications.

Rech "describes a case of *tubal pregnancy complicated by cancer of the cervix* which is said to be unique in medical literature. The woman was 43 years old and had given birth to eleven children. She came under observation when three months pregnant. The cervix was the seat of a cancerous growth. Hysterectomy was performed. During the operation profuse hemorrhage from the right parametrium. After removal of the uterus it was seen that right tube contained the ovum, while only decidua was found in the uterus. Recovery.

A case of *double extrauterine pregnancy* was operated upon successfully by H. B. Stehman."

Three cases of ectopic gestation are recorded by E. O. Croft; "one by H. Smith;" and one, operated on at term, by W. J. Smyly." Recovery followed the abdominal operation in all.

D. O. Ott "reports the removal of the tube in two cases of ectopic gestation, one being complicated by a cyst.

V. A. Vasten "gives statistics of seventy-seven cases of ectopic gestation observed at the Oboukhoff Hospital in three years.

Extrauterine Gestation simulated by Pregnancy with Parovarian Cyst.—F. S. Toogood "reports a case of pregnancy complicated by a parovarian cyst. Before operation it had been diagnosed as an ectopic pregnancy. Removal of the cyst did not cause abortion.

Cesarean Section.—H. C. Coe "says that in each case we should consider whether it is justifiable to allow the patient to risk the necessity of a second operation. This may be avoided by ligation of the tubes, removal of the appendages, or extirpation of the uterus. It has been shown that the first two are not always effective. Extensive disease or neoplasms of the uterus and appendages; absolute failure of the uterus to contract after evacuation of its contents; its undoubted or even suspected infection; a dyscrasia, as tuberculosis, which renders a subsequent pregnancy undesirable; and marked pelvic deformity, are indications for Porro's operation.

D. J. Chirchoff "reports a Cesarean section by Lebedeff for contracted pelvis. Mother and child living.

Perforation of the Aftercoming Head.—Wassmann advocates perforation through the roof of the mouth, while Herf urges the base of skull as the best place to perforate. Hergenhahn "reports forty-six cases of perforation of the aftercoming head from the Dresden Maternity Hospital. In these cases the perforator was introduced under the pubic arch, and the base of the skull was the most frequent point of attack. The perforator of Siebold, which is similar to Smellie's scissors, was the instrument employed. (Some operators, the minority, give

preference to Martin's trephine as an instrument of perforation. This instrument is harder to asepticize and makes the operation more difficult and therefore more dangerous.)

Symphyseotomy : its After-effects and a New Method.—

E. A. Ayers¹⁸ describes the following operation : Secure full dilatation of the cervix, if possible, without risk to the child. Have the urethra and bladder held to one side with a sound. Make the initial incision a little above the subpubic arch and under the elevated clitoris. Introduce the left index finger within the vagina against the posterior groove or ridge of the joint up to the top. Pass a narrow tenotomy knife, with the point close to the anterior surface of the joint, up to within a half-inch of the top, under the overlying soft tissues. Substitute a probe-pointed bistoury and meet the left index finger with the probe over the top of the joint, and work the blade through the joint downward until separation is felt by the posterior finger. This method avoids the vessels of the clitoris by passing under them ; if they are torn in delivery they will not bleed so readily as when cut. Check hemorrhage by pressure with gauze. Deliver with the forceps, if possible, and refrain from suprapubic pressure, aiming to deliver the head through the cervix without drawing the latter down below the symphysis. The use of the forceps may be necessitated, because the normal forces that direct the occiput may be so much in abeyance when full separation of the joint is attained as to fail to rotate the occiput forward. Pass a small strip of gauze into the prepubic wound, and another against the cervix, after irrigating, leaving both pieces exposed for easy removal, having refrained from stitching cervix or perineum, as the removal of the stitches interferes with the immobility of the joint. Hold the bladder well to one side while pressing the pubic bones together. Dress the vulva with gauze, and strap the joint with adhesive strips. Remove all the gauze in thirty-six hours and irrigate vulva and vagina twice a day, keeping the vulva carefully dressed. Attend to catheterization in person.

Ayers records five successful cases and presents a report of the work of forty-four operators upon seventy-two cases in the United States and Canada and two additional foreign cases. After an average time of sixteen and a half months between operation and last examination the pubic joint is in satisfactory union in every case. Forty-four cases are reported as having "no motion," nineteen with "slight motion," two with one-fourth of an inch motion, one with half of an inch "movement," and none with persisting effect on locomotion, while the pelvic joints are relaxed to some degree in the later weeks of pregnancy. and a slight play of the symphysis after symphyseotomy cannot always be charged wholly to the operation. Temporary pain in the sacro-iliac region is reported in three cases, and in the same number the bladder was "irritable" for a time varying from four weeks to six months. In two the bladder was torn : one healed ; the

other still has a fistula, now disappearing. In one, in which the child weighed fifteen and a half pounds, the anterior wall of the vagina necrosed, leaving the uterus resting in a vertical and fixed position. In four cases the operation was successfully done a second time.

The maternal mortality from induced labor ranges from two to five per cent. That for symphyseotomy is twice as high, but when it has been performed at the proper time during labor, without previous uncleanly and experimental work, the mortality has been a little above two per cent, the greatest danger being delivery of the child after separation is accomplished.

Miscarriage followed by Pelvic Inflammation, etc.—W. C. Wood¹¹ reports a case of accidental miscarriage followed by pelvic inflammation, and later by a criminal abortion, retention of placenta, septicemia and pyosalpinx, and complicated by an ovarian cyst. Recovery after operation.

Post-puerperal Endometritis.—Gonzartchik¹ has met with success in treating post-puerperal endometritis by intrauterine tamponade with iodoform gauze.

Puerperal Septicemia.—In the treatment of septic infection in puerperal cases D. J. Evans¹² advocates thorough cleansing of the uterine cavity by the blunt curette and brush, followed by copious antiseptic douching, the introduction of an iodoform bougie, and gauze packing. When such treatment, persisted in for twenty-four to forty-eight hours, does not lower the pulse and temperature or tend to promote uterine involution, surgical interference must be considered.

Insanity of Pregnancy and the Puerperal Period.—G. H. Savage¹³ gives a classification of the forms of insanity of pregnancy and the puerperal period. No definite form of insanity deserves the name puerperal mania. He does not think the induction of premature labor justifiable in many cases as a cure.

Vaginal Contraction after Delivery.—A. J. Orloff¹⁴ reports an operation for an annular contraction of the lower third of the vagina after labor.

Treatment of Erosions of the Nipple by Steresol.—Audebert¹⁵ strongly advocates the use of steresol for erosions of the nipple, except when they are multiple and its application would suppress mechanically the flow of milk.

Double Placenta in Simple Pregnancy.—M. Maygrier¹⁶ reports a case of placenta succenturiata in which the accessory cotyledon was attached to the other merely by blood vessels, and emphasizes the danger in such a case of incomplete removal of the secundines.

Deformed Fetal Skull.—Three cases of deformed fetal skull in the children of one woman are reported by M. J. Frye and M. M. Huntley.¹⁷

Wet-nurses.—R. Temesvary,¹⁸ in discussing the subject of wet-nurses, says that none should be engaged until four to six weeks after their delivery, as hereditary syphilis might not be discoverable in less time, and as unfavorable changes in the milk are likely to occur within that time, if at all.

Progress of Obstetrics.—A. D. Price² summarizes the present views concerning asepsis and antisepsis in obstetrics, the conduct of normal labor, and the treatment of eclampsia, placenta previa, and septic infection.

Artificial Leucocytosis in the Treatment of Septic Puerperal Processes.—According to the teachings of Brieger inflammatory leucocytosis liberates antitoxic substances which are important in the destruction of bacteriological poisons. Jaksch has also treated successfully severe cases of pneumonia with different "leucotactic" remedies, especially pilocarpine. This led Hofbauer³ to make use of the same theory in the treatment of septic processes of puerperal origin. He employed as "leucotacticum" the nuclein of Horbaczewsky; the doses are not mentioned. Of seven cases treated two died, five recovered. The clinical observations show an improvement in the patient's general condition; the puerperal abscesses look healthier. In the first twelve to twenty-four hours after administration the temperature rises, to again recede during the next few days. The large bones, especially the tibia and femur, become very sensitive; the uric acid excretion increases.

GYNECOLOGY AND ABDOMINAL SURGERY.

Abdominal Ptosis.—In reporting two cases of displaced kidney H. M. Taylor⁴ says that to ascertain the existence of ptosis of any of the abdominal viscera an examination should be made with the patient in the erect or semi-erect position. When recumbent the organs assume their normal position. In extreme ptosis of the kidney the viscus can be made to prolapse by instructing the patient to cough or by pressure of the examiner's hands. The discomforts are greatly relieved when lying down, and partially by abdominal binders. When the patient with general ptosis is lying down the abdomen appears normal, but when upright the upper portion is unduly flat, the lower unusually prominent.

Use of Abdominal Belt after Celiotomies.—S. McGuire⁵ believes that integrity of the abdominal walls after celiotomy is due to accurate suturing and prolonged confinement in a recumbent position rather than to the use of the abdominal belt. He gives an abstract of the views of some of the leading surgeons and gynecologists, the majority of whom employ the belt from conviction, doubt, or indifference. He protests against its use on account of its expense and annoyance, and because he considers that the fact that a single competent observer has discarded its use and found no reason to regret abandoning artificial support proves that in the large majority of cases it is unnecessary.

Drainage Tube in Abdominal Surgery.—J. F. W. Ross⁶ does not think the drainage tube can be dispensed with in abdominal operations, and believes that his results have been better with than without it. He adds the personal communications of a number of well-known operators upon the subject.

Intestinal Anastomosis.—A new instrument for intestinal anastomosis is described by J. J. Clarke.²⁰ It consists of a barrel-shaped portion a half-inch in diameter, surmounted at each end by a part shaped like a truncated cone, whose base, directed mesially, is of greater diameter than the barrel portion. Two rubber bands are employed. They are cut so that when stretched to the diameter of the barrel their depth brings them just flush with the lips of the larger ends of the bobbin. The mesial edges of the bands are slightly rounded. One band is half as wide as the barrel, and the other is cut obliquely, so that at its outer edge it is one-thirty-second of an inch wider than half the length of the barrel. One ring, lubricated with oil or soap, is inserted into one end of the gut; a purse-string stitch is run close to the border of the intestine and securely tied over the narrow neck of the barrel; the other end of the gut is treated in the same way, and the rings are then pushed over the ends of the bobbin on to the barrel. The redundant mesentery is drawn into two triangular folds and fixed. Compared with Murphy's button this instrument has a greater lumen, is lighter, especially if made of aluminum, has not a sharp cutting rim, and its ends are more tapering.

Excision of the Coccyx.—W. H. Burke²¹ reports the extirpation of the three lower coccygeal vertebræ for an old dislocation forward which has caused coccygodynia for five and a half years. Recovery rapid and relief complete.

Treatment of the Broad-ligament Pedicle.—Lawson Tait²² has applied to seventeen pedicles, with uniform success, his electrical hemostat. This consists of two opposed silver boxes, each containing a platinum wire of known resistance, isolated by plaster-of-Paris, kaolin, or pipe-clay. Through the wires, connected by binding screws, is passed an electric current of known strength. The boxes, protected from other tissues by ivory or other poor heat conductor, are screwed together with the pedicle between, and kept so until the latter is cooked.

Colpoperineorrhaphy.—H. J. Garrigues²³ describes an operation for prolapse of the posterior vaginal wall which differs from Hegar's in deep denudation by blunt scissors, and in the slanting direction of the vaginal sutures which lifts the posterior wall, and of the perineal which insures a more perfect coaptation of the edges.

Morphology of Uterine Cancer.—Roger Williams,²⁴ in an excellent paper, treats consecutively of the general morphology of uterine cancer, the primary neoplasm, local dissemination by way of the lymphatics, including a description of the lymphatic supply of the uterus, and general dissemination through the blood vessels, which is more rare.

Carbide of Calcium for Epithelioma of the Uterus and Vagina.—A. Guinard²⁵ advises the use of calcium carbide as a palliative for cancer of the cervix and vagina, though not claiming eventual cures from its employment. It retards the disease by stopping the hemorrhage, fetid discharge, and diminishing pain. He places a small piece of the carbide upon

the cancerous tissue and tampons the vagina with iodoform gauze. After three or four hours he irrigates freely with 1:1000 bichloride and repeats the application. The calcium carbide is decomposed by moisture into calcium oxide and acetylene gas, both of which he believes take part in the action upon the neoplasm. Healthy vaginal mucous membrane is almost unaffected by the application.

Recto-vaginal Anastomosis for Cancer.—J. Price²² has been successful in two of three cases in which recto-vaginal anastomosis was performed for cancer of the uterus invading the rectum. The operation consisted of vaginal hysterectomy, resection of the intestine in healthy structures above and below the tumor, and suturing of the upper portion to the upper extremity of the vagina. Daily movements after the fourth day. There was no perceptible fecal odor or evidence of discharging of feces.

Cancer of the Uterus.—P. J. Sadovsky²³ describes six cases of hysterectomy by Doyen's method for cancer of the uterus.

Vaginal Hysterectomy for Cancer.—Vaginal hysterectomy for cancer, followed by death, is reported by M. Staley.²⁴

Vaginal Hysterectomy.—Leith Napier²⁵ reports the removal of a uterus by the vaginal route for menopausal endometritis and sarcoma. Recovery.

Miliary Carcinoma of the Peritoneum.—H. Desplats²⁶ describes a case of miliary carcinoma of the peritoneum extended to the pleuræ and diagnosed as double pleuro-peritoneal tuberculosis.

Tubercular Peritonitis.—A case of tubercular peritonitis is described by U. S. Meingardt.²⁷

Acute Pelvic Peritonitis from the Standpoint of the General Practitioner.—J. M. Baldy²⁸ says that the treatment of pelvic peritonitis is rest, depletion, and incidentally relief from pain. Opium fulfils two indications but defeats depletion. Rest in bed, especially at menstrual periods, and sexual abstinence must be enforced, the latter by soft vaginal tampons of wool worn between treatments, if necessary. Depletion may be caused by direct scarification or leeching of the cervix, better by hydragogue cathartics, especially the salines. A teaspoonful of magnesium sulphate should be given every hour until half a dozen or more movements are secured within a few hours. In some cases the symptoms then subside. In these there probably exists merely a sort of reflex peritonitis accompanying a small local pelvic inflammation, but simulating a general involvement of the pelvic peritoneum. If the stomach rejects magnesium preparations give calomel in grain doses half a dozen times, followed by a saline and finally a large enema of hot soapsuds. If the pain is too intense hypodermatics of one-sixth to one-quarter of a grain of morphine need not be feared. After depletion a vaginal douche of a gallon of water at 105° to 110° should be given twice daily with the patient on her back. In no other way can anything but harm come from the douche. Counter-irritation, poultices, etc., are of more than

doubtful utility, though they may allay the mental condition. An attack confining to bed for a month or longer should cause suspicion of suppuration.

Absorption of Fibromata.—Bossi," of Genoa, gaining access, through a fistulous opening following an operation, to a fibroid in process of absorption, showed, by removing a portion of the tissue, that a fatty degeneration was taking place in the cells of the tumor. There were present also many leucocytes containing fat globules, demonstrating the way in which the substance of the tumor was eventually absorbed. He found the same conditions in a fibroid removed by Cesarean section during pregnancy.

Fibroids and Hysterectomy.—G. Houzel," in a discussion of the various forms of hysterectomy and their technique, expresses a strong preference for the clamp operation over the use of ligatures, whether by the abdominal or the vaginal route. From the standpoint of security it is equal or superior in the hands of the average operator. It is more simple and expeditious. He thinks the amount of pain caused by clamps has been exaggerated.

Uterine Fibroids.—W. H. Baker " reports the successful removal of a uterine fibroid which had caused violent hemorrhage in a woman 64 years of age. Menstruation had begun to diminish at 56, but lasted until 64.

A. H. Tuttle" discusses the proper time and mode of operation for uterine fibroids, and R. E. Haughton" presents a general article on their surgical treatment. Treatment, medical and surgical, as applicable to various classes of cases, is discussed by W. B. Chase." Apostoli's method is condemned, as there is little or no evidence that it promotes absorption of fibrous structures, though reducing edematous fibroids, and its dangers in the presence of associated diseases more than outweigh any advantages.

P. Petit" has removed a large subperitoneal retrouterine fibromyoma, by intracapsular morcellation, through the vagina. Neither the uterus nor the peritoneal cavity was entered, recovery ensuing with the integrity of the uterus maintained.

Two cases of uterine fibroids complicated by pregnancy are reported by D. P. Allen." Both grew rapidly during pregnancy. One case ended in premature death and expulsion of the fetus, septic infection, and death. In the other, death occurred from intestinal obstruction due to adhesion of the intestine to the uterine stump, following amputation above the cervix.

Three myomatous uteri are reported by W. J. Smyly" as removed by morcellation, with recovery. D. O. Ott" has successfully treated two cases of fibromyoma by total vaginal hysterectomy and seven by morcellation of the uterus.

Death from secondary hemorrhage followed the removal of a large cystic fibroma undergoing sarcomatous degeneration, by D. O. Ott."

Treatment of Hemorrhages from Uterine Fibroids by Zinc Chloride.—Laroyenne" advocates the treatment of hem-

orrhages due to uterine fibroids by pencils of chloride of zinc in cases which refuse operation, in those approaching the menopause, and in those who are too anemic to bear an operation on account of previous losses. He uses flexible pencils of Canquoin's paste, introduced into the uterus through a canula in order to avoid cauterization of the internal os, which would lead to stenosis or atresia. In dilating the cervix care must be employed not to bring on uterine hemorrhage, as blood neutralizes the action of zinc chloride. Of sixty cases so treated one-fourth reported themselves as in good condition; a similar number could not be found; and of the rest many showed improvement in the hemorrhages or pain, while in only five or six had the neoplasm so increased as to demand hysterectomy.

Hysterectomy.—D. O. Ott⁹ reports the removal of three uteri by the combined method.

Forced Hysterectomy during Vaginofixation.—S. Fredericq¹⁰ describes an attempted vaginofixation in which the uterus was so friable that hysterectomy was necessitated by the laceration caused by the forceps and sutures.

Chronic Inversion of the Uterus.—A case of chronic inversion of the uterus in which circumscribed sloughing of the fundus was caused by the use of Aveling's repositor is reported by G. H. Cowen¹¹

Superinvolution of the Uterus.—Bossi,¹² of Genoa, finds by microscopical study of sections that superinvolution of the uterus is a process of simple muscular atrophy with formation of connective tissue. Large cells with large nuclei, not present in the normal uterus, are seen. These he believes are transition forms between leucocytes and connective tissue.

Prolapse of the Uterus.—The following operation has recently been employed by A. P. Goubaroff¹³ for prolapse of the uterus, after performing an amputation of the cervix if indicated: A purse-string suture of Florence silk is introduced beneath the vaginal mucous membrane, beginning at a point high up on the left side of the posterior wall, running up nearly to the cervix, thence transversely to the right and then downward. It is carried outward through the levator ani and enters the vaginal wall below as a buried suture, not piercing the mucous membrane, and, passing transversely to the left, is carried outward and upward through the levator ani of the left side. Entering the vaginal wall above, it runs upward in a line continuous with its initial course and is brought through the mucous membrane into the vagina at its starting point. A similar suture is passed in the anterior vaginal wall. When both are tied the vagina is narrowed and shortened, with the formation of natural rugæ, while the weak pelvic floor is drawn upward and strengthened without the use of deep perineal sutures. He thinks that modifications of sutures introduced upon the same principle may be made to replace such plastic operations as colporrhaphy.

Treatment of Retrodisplacement of the Uterus.—J. R. Goffe¹⁴ considers vaginal fixation as the operation *par excel-*

lence in the treatment of retroversion with or without adhesions, these being broken up, when present, by the finger passed over the fundus through the vaginal incision.

J. C. Stinson "advocates Edebohls' modified Alexander's operation, with the exception of fastening the shortened ligaments and coaptating the lips of the aponeurosis of the external oblique by a buried suture of kangaroo tendon, the wound being closed without drainage. When adhesions exist or disease of one tube and ovary, an incision into Douglas' pouch will allow the breaking-up of the former and plastic work or removal of the latter. When retrodisplacement is accompanied by bilateral disease of the appendages vaginal hysterectomy should be employed. He quotes the success of Mundé with Alexander's operation, and the recent reports of Mackenrodt and others upon the unfavorable influence of suspension of the uterus upon labor. The fixed pathological ante flexion caused by vaginal fixation will probably interfere with pregnancy and labor with possible rupture of the uterus. With ventral fixation the displacement may recur, conception is less likely, while intestinal adhesions, death from operation or sepsis, and ventral hernia are possible, and abortion, prolonged labor, or rupture of the uterus may result.

Kreutzmann "prefers, in cases in which operative treatment is indicated, the Alexander operation as modified by Kocher, in which the round ligaments are not cut, but are fixed in their continuity upon the underlying fascia. The objections which have been made to this method, such as the difficulty of finding the ligaments and the liability to hernia, are not proportionate to the advantages which this operation offers, as the uterus is retained in a normal position and does not lose its mobility. Kreutzmann uses after the operation a pessary, which must be worn for three months.

H. T. Byford "describes an operation for retroversion which consists, briefly, in (1) anterior colporrhaphy; (2) suture of the fundus uteri to the peritoneal covering of the upper portion of the bladder; (3) suture of the round ligament to the uterus above its normal uterine insertion, at a point as far toward the pubic end as can be grasped; and (4) closure of the vaginal wound in such a way that the bladder regains its vaginal and uterine attachments, and the connective tissue from either side of the anterior fornix is drawn together in front of the uterus and forces the cervix backward.

Castration and Structural Changes in the Uterus.—The investigations of Sokoloff¹⁷ were made on twenty bitches. He examined the histological changes after castration and found that the uterus either ceases to develop (in young animals) or becomes the seat of atrophic changes. The atrophy begins in the circular muscular fibres. After this the longitudinal fibres are attacked. The mucosa remains unchanged. Sokoloff explains the atrophy of the muscular fibres by the removal of nerve centres situated in or around the ovaries.

Utero-ovarian Irritation causing Rheumatoid Arthritis.
—W. Armstrong "thinks that the analysis of a large number

of his cases of rheumatoid arthritis shows a marked connection with diseases of the uterus and ovaries. When such disease exists treatment by mineral baths and waters seems inefficient. He advises, and has had good results, from the following: (1) gynecological treatment of uterine or ovarian lesions; (2) remedies to allay irritation of nervous supply of these organs, as a pill of cimicifugin, viburnum, cannabis Indica, and belladonna; (3) six galvanic baths on successive days as a tonic to the nervous system; (4) then galvanic and mineral-water baths alternately; (5) massage, wet and dry, for joint lesions; (6) general tonics.

Fluid of Ovarian Cysts as Medium for Cultivation of Gonococci.—F. J. McCann¹ has conducted a series of experiments with the fluid contained in ovarian cysts, and describes the way in which it may be used as an excellent culture medium for gonococci.

Ovary.—A dermoid ovarian tumor weighing over one hundred pounds has been successfully removed by Skene Keith.¹ L. S. McMurtry² describes a case of ovarian abscess with pyosalpinx upon which he has operated. Glycosuria complicating an ovarian tumor and ovariectomy is discussed by H. Croom.³ Skene Keith⁴ describes unusual complications in two cases of the removal of the ovaries and tubes. Chabelsky⁵ reports the removal, by the abdominal route, of a dermoid cyst containing a number of teeth, some of which were carious. A case of cyst of both ovaries is reported by W. Balls-Headley.⁶ A. F. House⁷ records a case of dermoid cyst of the ovary, and another which he considers a cysto-sarcoma of the ovary. Removal of an ovarian cyst with a long, twisted pedicle is reported by H. Snow;⁸ recovery. A strangulated ovarian tumor was successfully removed by E. T. Davies.⁹

Extract of Ovaries.—The extract used by Mond¹⁰ was obtained from the whole ovary, or the contents of the follicles were precipitated. The remedy was employed in cases of amenorrhea and where nervous symptoms followed the removal of one or both ovaries. The results obtained are not conclusive, but encouraging.

Feeding with Ovarian Tissue.—The production of the artificial menopause by removal of the ovaries is frequently the cause of a train of nervous symptoms, such as vertigo, headache, palpitation of the heart, etc. To avoid these symptoms Chrobak¹¹ has been in the habit of leaving, in cases of myomectomies, one or both ovaries in the abdomen; his results have been uniformly good. In the treatment of the disagreeable symptoms present during the period when the climacterium becomes established, he has lately administered by mouth the ovarian tissue of animals, with gratifying results. He gives the ovarian tissue in the form of tablets (each 0.2), two to four per diem. The results were also good after ovariectomy; bad effects have not been observed.

Transplantation of the Ovaries in Rabbits.—Upon the suggestion of Chrobak, Knauer¹² extirpated the ovaries of

rabbits and implanted them in other parts of the same animal. He selected as places of implantation the peritoneum of the uterine cornua and the space between the abdominal fascia and muscles. The ovaries not only grew into their new position and remained nourished, but they also continued to functionate; the follicles matured and in a few cases also ruptured. These experiments form an interesting analogy to the well-known transplantations of the testicles by John Hunter and Wagner.

Fallopian Tubes.—Uninterrupted recovery from vaginal colpotomy for the removal of a *pyosalpinx* is reported by W. J. Smyly.¹¹

C. B. Penrose and H. D. Beyea¹² present a full report of four cases of *tuberculosis of the Fallopian tubes* occurring in a series of twenty-seven celiotomies for inflammatory disease of the appendages—*i. e.*, in fourteen and eight-tenths per cent.

Hydatid Cyst of the Tubes.—Benoit¹³ reports a case of hydatid cyst of both tubes removed by Doléris through an abdominal incision.

Patent Duct of Gärtner.—A. J. C. Skene¹⁴ describes a case of patency of a duct of Gärtner which entered the urethra. It was contained in a fold of mucous membrane in the right anterior vaginal wall. This was ligated near the urethra, and when distended the next day by secretion the ridge was incised and the duct injected with tincture of iodine containing five per cent carbolic acid. The watery discharge from the urethra, which has lasted since birth, was completely suppressed.

Surgery of the Ureter.—J. B. Sutton¹⁵ reports a case in which, after removal of the appendages for chronic salpingitis, the right ureter was entangled in inflammatory tissue in that part of its course where it runs between the layers of the broad ligament, and this implication of the ureter near its vesical termination induced tonic contraction of the muscle tissue of the bladder until this organ would hold but two ounces. Removal of the right kidney was followed by relaxation of the bladder wall and relief of the frequent micturition.

He also reports a case of probably congenital hydronephrosis which had caused dragging pain with attacks of colic-like pain at intervals for twenty-five years. Upon removal the ureter was found to be narrower than that of a fetus at term. A third case was that of a fetus born nearly at term, in which, associated with imperforate urethra and anus, the left ureter is much dilated. Its lower extremity is so much enlarged as to resemble a bifid condition of the bladder. Sutton believes that many so-called bifid bladders are cases of this character.

Primary Carcinoma of the Ureter.—L. Hektoen¹⁶ describes fully a case of primary medullary carcinoma of the ureter. Death, without metastasis, occurred in eight months after the appearance of the first symptoms.

Cystic Urachus.—A case of cystic urachus is reported by J. W. Carroll.¹⁷ Recovery.

Vaginal Lithotomy in Prolapse of Uterus and Bladder.—By vaginal lithotomy M. Staley¹⁸ removed four vesicel

calculi weighing eight ounces. The prolapsed uterus and bladder were replaced later.

Intraperitoneal Rupture of the Urinary Bladder.—George Heaton¹¹ records the following successful case. The patient was lying on the floor when her husband tripped, falling heavily on her abdomen. She was immediately seized with intense pain in the lower part of the abdomen, a severe attack of vomiting, and a great desire to micturate, but inability to do so. The removal of blood-stained urine by the catheter relieved the efforts at micturition, but the pain extended all over the abdomen and the vomiting continued at intervals. On opening the peritoneal cavity a large quantity of deeply blood-stained fluid escaped. A rent, three and a half inches in length, was seen at the summit of the bladder. Small portions of its ragged, everted edges were cut off, and a row of Lembert sutures of the finest Chinese twist silk passed through the serous and muscular coats, about a quarter of an inch from the side of the rent, and issuing on the torn muscular surface. A second row was passed on each side of the first, and another in the spots where union seemed weak. The sutures must be passed well beyond the limits of the rent at each end, as leakage after operation has almost always taken place from the posterior end of the rent which had been insecurely sutured. Distension of the bladder with water proving it to be water-tight, the abdominal wound was closed without drainage, after thorough irrigation of the abdominal cavity with boiled water. In two weeks no blood was found in the urine, and nine days later voluntary micturition occurred. The operation being long, Heaton advises a brandy enema, care in keeping the patient warm, and economy of time. Transverse division of the recti muscles may be needed to gain access to the seat of rupture. Distended intestines are best controlled by the Trendelenburg position.

The symptoms of rupture, any one of which, except the sudden pain at the time of accident, may be absent, are usually: (1) A history of direct violence to the hypogastric region when the bladder is distended or moderately full. (2) Sudden, violent, burning pain in the lower part of the abdomen, accompanied by the signs of shock and collapse. (3) A constant or almost constant desire to pass water, with complete inability to do so, or with the passage of only a few drops of blood-stained urine. (4) If no active treatment be adopted, gradually increasing abdominal distension, with the evidences of free fluid in the peritoneal cavity.

Treatment of Vesico-vaginal Fistulæ by Intravesical Suture.—S. Duplay¹² prefers, when possible, to treat vesico-vaginal fistulæ by extensive denudation and vaginal suture. He reports a case in which the extreme thinness of the vaginal wall prevented this operation, and he successfully performed suprapubic cystotomy and intravesical suture.

Kraurosis Vulvæ.—Peter¹³ publishes a case from A. Martin's clinic. All former publications contain only microscopical exam-

inations of the last stages of this disease, while Peter's investigations deal with the earliest stages. These show that kraurosis vulvæ consists of an inflammatory hyperplasia of the connective tissue, with a tendency to cicatricial contraction, edema of the upper layer of the corium and epidermis, and a degeneration of the elastic tissue elements. A case of kraurosis vulvæ reported by Gordes² illustrates the clinical picture of this disease and was treated by an excision of the diseased tissue area. Besides the other well-known changes the preparation showed clearly the degeneration of the elastic tissue.

Treatment of Pruritus Vulvæ.—Ruge³ believes that the causes of this most tantalizing complaint are local conditions of either chemical or bacteriological character. He recommends as a therapeutic measure vaginal douches and washings of the vulva with strong bichloride solution. By this method he destroys all pathogenic germs. The same treatment is said to be very good in recent gonorrheal infection.

Clitoridian Adhesions.—G. G. Buford⁴ mentions the analogy of the clitoris and penis, and the possibility of the production by clitoridian adhesions of disturbances similar to those caused by preputial in the male. Masturbation, nymphomania, hystero-epilepsy, and sexual neurasthenia may result. He advises separation of the adherent surfaces under free cocaine anesthesia and strict asepsis.

Gonorrhea.—M. Rosenwasser⁵ dwells on the often underestimated serious results of gonorrhea in women, this disease being accountable for seventy per cent of all cases of their sterility. He thinks marriage should be prohibited unless a complete cure is effected, and that all married persons should be subjected to prolonged observation after treatment before resuming sexual relations. He condemns abortive treatment of an acute attack by strong antiseptics and astringents.

Conservative Gynecology.—A. F. Currier⁶ urges conservatism in gynecological operations, and thinks the uterus should be removed only for malignant disease of any of the generative organs, extensive myomatous disease of the uterus, extensive injury to uterine tissue in removing appendages, and a few miscellaneous conditions, such as ectopic gestation.

Gynecological Massage.—C. Leder⁷ considers massage a valuable remedy, applicable without danger to almost all gynecological affections—metritis, parametritis, salpingitis, parenchymatous ovaritis, displacements, etc. The best results are obtained in recent cases. It should be employed after labor or miscarriage to aid and assure uterine involution, to mobilize the organs and thus prevent their becoming displaced or fixed. It is a valuable adjuvant to surgical operations and therapeutic measures.

Symptomatic versus Anatomical Cure by Gynecological Operations.—H. C. Coe⁸ says that pelvic pains are not only complex, but their origin is often obscure. It is safe to infer that they are seldom referable to a single obvious pathological condition, and we may fall into the error of inferring that an

operation will relieve all the symptoms instead of only one. He emphasizes the necessity for prolonged observation, the value of local and general treatment, and the correction of displacements before advising operation, and states that an anatomical cure may be perfect yet symptoms be unrelieved. The patient should be informed that immediate benefit is the exception.

Bicycling for Women.—P. E. Doolittle²² strongly advocates cycling for women, and gives the reasons for his opinion.

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DISEASES OF CHILDREN.

Abdominal Section.—Alfred C. Carpenter¹ reports the case of an infant, 2 months old, who was suffering from chronic intussusception, as evidenced by an enormously distended abdomen, cessation of intestinal movements, a temperature of 102.4°, pulse of 120, respirations 80. Laparotomy, puncture of the intestines to allow the escape of enormous accumulations of gas, reduction of the bowel, flushing of the cavity, closure of the wound, and iodoform gauze drainage were followed by perfect recovery. It is the youngest successful case of abdominal section on record.

Acute Anterior Poliomyelitis.—Taliaferro Clark² says that failure to recognize the incipency of this disease often occurs, yet early diagnosis with appropriate treatment will greatly curtail the area finally paralyzed. Therefore it is necessary to be ever on the watch for this common and insidious affection when called upon to prescribe for a child under 3 years of age presenting symptoms characteristic of no particular malady. It is a disease of infancy due to lessened capacity for resistance in

the tissues of the young. In the congestive stage ergot meets the indications. The patient should be kept in a room at a temperature of about 70° F., free from draughts, and sudden chilling should be avoided. Nauseating doses should not be given, as they cause struggling. If the child is malarious give quinine. The author uses the hydrochlorate of quinine in combination with ergot in suppositories. He does not advise electricity in the early stages. In the regressive stage the iodide of potassium, oxygen, nourishment, and exercise will give the best results. Galvanism hastens the absorption of the exudate. Interrupted galvanism should be applied to the paralyzed muscles before the return of response to faradism. The writer prefers electricity to massage.

Alimentation of Debilitated or Malformed Sick Nursing Infants.—A. B. Marian¹ lays emphasis upon the fact that when milk is diminished in the diet of children suffering from febrile or digestive disorders it must be replaced by an equal amount of boiled water. In severe acute gastric enteritis a hydric diet of twelve hours or more is the best initial medication. In slight diarrhea the amount of milk should be diminished and water or barley- or rice-flour water substituted. This affection is often dependent upon overfeeding. In the case of constipated children with poor appetites it is well to put a little salt into the milk, but an excess must be avoided.

Ascites Chylosus in a Nursling followed by Chylous Exudates into the Serous Cavities of the Body.—Kamien-ski¹ reports a case. Seven hundred and fifty cubic centimetres of milky fluid were withdrawn by aspiration. The fluid returned, mercurial plaster was applied to the abdomen, and a cure followed.

Balano-preputial Adhesions in Childhood are considered by Baumel.¹

Bladder, Exstrophy of.—J. N. Bloom¹ reports a case in which the condition was such that an operation was impossible and in which no receptacle could be arranged to collect the urine.

Bromoform Poisoning.—Borger¹ thinks that this agent acts chiefly upon the cerebellum and then upon the cord. The treatment consists of injections of ether, camphor, etc., artificial respiration, faradism to the phrenic nerves, traction on the tongue, clearing the larynx of mucus, etc. There is no specific antidote. He suggests small doses of morphia or the inhalation of amyl nitrite.

Cecal Hernia.—Francis H. Shepherd¹ has seen at least six cases in the last ten years, in only one of which did the tumor consist solely of cecum. He reports a case in which a radical operation resulted in a cure.

Cerebellar Tumor.—Arthur J. Hall¹ reports a case in which hydrocephalus was caused by obstructed cerebral circulation due to pressure by the tumor, which occupied the middle lobe of the cerebellum. Puncture in the lumbar vertebral canal did not reveal any increased pressure. The child died.

Cerebral Paralysis.—J. P. West ¹⁰ describes a case of idiocy associated with infantile cerebral paralysis without hope of cure. A diagnosis of microcephalus had been previously given.

Chorea.—Frank R. Fry ¹¹ reports a case which terminated fatally. There were no evidences of any complicating disease. An aunt of the patient also died of chorea. I. N. Love ¹² believes that acetanilide, phenacetin, or antikamnia are desirable tranquillizing remedies. In view of the rheumatic diathesis in these cases, appropriate treatment should be applied. The importance of attention to the state of the genitalia should not be forgotten.

Clubhand.—J. Perrando ¹³ reports a case of this rare deformity.

Coxalgia.—A. B. Judson ¹⁴ describes the apparatus of Howard Marsh, illustrating his article by designs.

Croup.—G. W. Moody ¹⁵ believes that croupous laryngitis and diphtheria of the larynx are two distinct diseases. He gives emetics and purgatives in all cases. Veratrum is extremely useful; carbonate of ammonia is useful, as it causes liquefaction of the fibrin in the blood, in this way limiting exudation.

Cystic Lymphangioma.—D'Arcy Power ¹⁶ says that this disease may be distinguished from diffuse lipomata by the greater tenseness of the lymphatic swelling and by the peculiar elastic sensation which is given when a number of cysts are felt beneath the skin, the lipomata being softer and more doughy. The skin, too, is more intimately blended with the lymphatic tumor than with the lipoma, unless the cyst lies beneath the deep fascia, when the skin is freely movable and is absolutely unaffected. Lymphangiomata usually present prolongations of their tissue. The recurrent attacks of lymphangitis will go far to prove the lymphatic origin of such a tumor. Nevi sometimes closely resemble lymphangiomata; they are more common than the latter, and can be emptied or reduced in size by well-regulated pressure, while all efforts leading to venous engorgement increase their size. Nevi in which there is much connective tissue, and those rarer forms containing fatty or sarcomatous tissue, are less easily diagnosed from the tumors under consideration, and exploratory puncture will alone decide the question. Dermoid tumors are sometimes found in children. They have thicker walls and more resistant contents than lymphatic cysts. They are also more regular in shape, are better circumscribed, and grow more slowly. Puncture should always be tried before any more formidable operation is decided upon.

Dermatitis Exfoliativa.—Baumel ¹⁷ describes this affection of the newly-born, which is characterized by intense redness and turgescence. There is no fever. The disease usually appears from the second to the sixth week and lasts about eight days. The etiology is obscure. Regulation of the diet and extreme cleanliness are of the first importance in the treatment. The surfaces are to be kept dry, and rice powder, the subnitrate of bismuth, or boric acid may be dusted over them.

Diarrhea.—Reinach¹¹ treats of the therapy of summer diarrhea in infancy. He treated fifteen cases with sterile cow's serum, but will continue with horse's serum. Only bottle-fed and very severe cases were selected; the age ranged from 14 days to 9 months. Four died, two of pneumonia. Ten to twenty cubic centimetres were injected under the skin of the chest; there was no local reaction; an exanthem appeared in one case fourteen days after the injection. Reaction was good; collapse disappeared usually twelve hours after the injection. Temperature rose to 101.3° in two cases. Some needed a second dose. Rice water was the only food given during the treatment. H. Dauchez¹² reports three cases of muco-glairy diarrhea successfully treated by enteroclysis. A great quantity of warm fluid should be used; there should be a feeble pressure and a slow flow; the child must be in a horizontal position with the cecum dependent.

Diphtheria.—Raoul Bayeux¹³ reports a case of pseudo-membranous diphtheritic laryngo-tracheitis cured by simple swabbing of the larynx. G. Variot¹⁴ calls attention to the importance of direct inspection of the epiglottis in children suffering from diphtheria: a white line which frequently may be seen upon its extremity, and even upon the anterior surface, is a sure sign that the diphtheria has extended to the vestibule of the larynx. J. E. Fackler¹⁵ gives a general discourse upon the treatment of diphtheria. Everett D. Peck¹⁶ gives the diagnosis, prognosis, and treatment. G. Variot¹⁷ divides pharyngitis with Löffler's bacillus into two varieties: 1. Bacteriological diphtheria of the pharynx with no definite objective symptom capable of verification by clinical examination, its only fixed characteristic being the presence of the bacillus. 2. Clinical diphtheria of the pharynx, the bacillus present and the symptoms those usually found in diphtheria—i.e., exudate and extensive false membrane. *Bacteriological diphtheria of the pharynx*—Löffler's bacillus has been found in certain forms of pharyngeal herpes, in anginas limited to the tonsils, in follicular tonsillitis, in catarrhal pharyngitis with or without pre-existing tonsillar hypertrophy, in the anginas of rubeola without exudate, and in some scarlatinal anginas with circumscribed exudate. The presence of the bacillus does not necessarily indicate diphtheria, but it should put us on our guard, in the same way that albuminuria is not a positive sign of nephritis but certainly serves as a danger signal. *Clinical diphtheria of the pharynx* is characterized by grayish membrane adherent to the mucous membrane. The membranous patch situated upon the tonsils is common to all exudates, whether diphtheritic or not, but upon the pillars of the fauces, the palate, uvula, epiglottis, nasopharynx, pharynx, and trachea and bronchi it is peculiar to diphtheria. *Circumscribed diphtheria of the pharynx*—This form is intermediate between bacteriologic diphtheria and the typical forms. As a rule the membrane is on one side only of the tonsils, is smooth, grayish, homogeneous, and when it comes off retains the shape of the tonsil. Usually the general

health of the child is good. If a coexisting patch of membrane is found upon the pharynx and epiglottis, a diagnosis may be made of diphtheria, and as a rule the bacteriological examination will confirm it. "*Moyenne*" diphtheria of the pharynx is a term used by Hœnrich to describe the ordinary typical form. Swelling of the tonsils often interferes with an examination of the pharynx. As a rule the membrane is found on the tonsils, the pillar, the velum, the pharynx, and the uvula. In these cases there should be an immediate injection of twenty cubic centimetres of serum. There is a variety of extensive membranous angina exactly similar clinically to the "*moyenne*," in which, however, only streptococci are found, but it is rare. The variety which we are describing may be mild in its reaction upon the mucous membranes, but as a rule the inflammation is intense; there may be ulceration and loss of substance. The glands may or may not be involved. The general health of the child is not notably affected. *Confluent and extensive diphtheria of the pharynx*—This variety is characterized by the abundance of the membranes over nearly the entire pharynx. The membrane is no longer in patches, but continuous; the nasal fossæ and the respiratory passages are invaded. Phrenoglottic spasm usually supervenes, intubation is of little use, and the child dies of asphyxiation or intoxication caused by extension of the membrane. A bacteriological examination shows the bacilli alone or mixed with streptococci. *Toxic diphtheria of the pharynx*—This is the most dangerous of all the forms and possesses three special characteristics: 1. The pharyngeal membranes are very confluent, dense and thick, cover the whole pharynx, and invade the velum palati even to the bony palate. 2. The cellular tissue of the neck is infiltrated. 3. The membrane extends upward to the nasal fossæ and post-pharyngeally, but rarely to the respiratory passages. Croup is exceptional. Death occurs with cardio-vascular disturbances resembling those of the intoxication of cholera. The infiltration of the neck is more significant from a prognostic point of view than the membranes, and death is nearly certain when the neck is swollen and deformed. In Variot's experience the serum is useless in these cases. He believes that the only action of the serum in diphtheria is upon the membranes and that it does not affect the diphtheritic poison. In diphtheria of the respiratory passages it is exceedingly useful. The value of a clinical diagnosis has lost nothing since the introduction of a bacteriological examination, and the country physician who has no laboratory at hand, but who has a sound knowledge of the clinical evolution of diphtheria, is better armed against the disease than the most learned bacteriologist who has no clinical knowledge to guide him. The same author reports a case of pharyngeal diphtheria which was light. There was croup with phrenoglottic spasm. Intubation was performed and two injections made of twenty-six cubic centimetres of serum. Death occurred in forty-eight hours with hyperpyrexia unexplained by the lesions found at the autopsy. Might it have been due to the serum?

Valuable as is this remedy, it should be used with caution and never as a preventive. Lacoarret" reports a case of post-diphtheritic pseudo-hypertrophy of the tonsils which was of toxic origin, a species of lymphadenoma caused by the diphtheritic poison. E. Malvoz" gives statistics upon the value of the antitoxin treatment compiled from the report of the medical superintendents in London. C. G. Weston" gives an exhaustive review of the subject of antitoxin. Sidney Martin" has two lectures upon the same topic. Carl Strueh" says that we must not forget that statistics are unreliable, because each individual case differs from others, so that we always compare unequal values. Furthermore, epidemic, endemic, and other circumstances play such a part that it seems hazardous to decide upon the value of a new remedy from the experience of one or of a few years. In the Children's Hospital at Basel the mortality in 1876 was thirty-four per cent, in 1886 only six per cent. Had any new remedy been used during the latter year, the decrease in mortality would certainly have been ascribed to it. Many of the reports about antitoxin give little or no change in mortality; again, a larger proportion of the cases of diphtheria have been reported since the introduction of the serum therapy. The author believes that the mortality has decreased under the antitoxin treatment, but ascribes this decrease to the exclusion of the drug treatment. Edwin Rosenthal" endeavors to prove that intubation is more desirable than tracheotomy; that with the serum treatment of diphtheria the latter will no longer be necessary in this disease; that the serum treatment has had a marked and favorable effect in reducing the time that the tube is to be worn in the larynx. The author makes use of numerous statistics, English and American, to prove these points. F. Gordon Morrill" says that experience at the Children's Hospital goes to prove that immunization lasts twenty-eight days, but that it is unsafe to depend upon it for a longer period. A. Seibert and F. Schwyzer" conclude, after a series of experiments upon guinea-pigs, that the sudden deaths reported after antitoxin injections were caused by injected air and not by the serum. They claim that very large doses of the serum may be brought quickly into the blood current without giving rise to threatening symptoms or death. From the absence of convulsions in the cases of sudden death, and the fact that guinea-pigs and rabbits will survive very large and concentrated doses of carbolic acid injected into a vein, they discard the possibility of this drug (placed in the serum for preservative purposes) having caused the deaths. E. W. Saunders" believes that if every physician will without delay inject every case suspected of being diphtheria, we shall have statistics far better than those hitherto published. C. G. Coakley," in giving the statistics of diphtheria, divides the disease into two periods, the early and the late, divided by the period when antitoxin became a factor in the treatment, or 1894. In the first period diagnosis depended upon a group of constitutional symptoms varying from slight to severe, together with the appearance of a pseudo-

membrane of varying extent, character, and position. Under those circumstances many errors of diagnosis occurred. In the later period diphtheria consists of the discovery of the Klebs-Löffler bacillus in the cultures taken from the throats of patients presenting any form of inflammation of the fauces. The finding of the bacillus in individuals who constitutionally are apparently free from disease has led many to become sceptical as to the value of bacteriological examinations in the diagnosis of diphtheria. The author believes that a broader and better view to take is that neither clinically nor bacteriologically do we yet possess a full knowledge of diphtheria, and that the more opportunities the practitioner affords to the bacteriologist for studying cultures from the throat the sooner shall we arrive at a point when the two methods of diagnosis will agree. Tables are given showing the cases, deaths, per cent of deaths, and number dying per ten thousand inhabitants in Boston, New York, and Brooklyn for each year from 1880 to 1895, inclusive, also the statistics of the Boston City Hospital and Willard Parker Hospital from 1888 to 1895, inclusive. The statistics are valuable and interesting, but too full to be reported fairly in abstract form. The author states that the conditions are so different in the early and the late period that any comparison of the death rate of the latter period with that of the former period will be apt to lead one to erroneous conclusions.

Empyema.—Cornelius A. Griffiths "attaches very little importance to auscultation in making diagnosis, as he has found cases in which the breath sounds were well conducted, giving high-pitched, tubular breathing. The only reliable method is the removal of some of the fluid for examination. The diagnosis of empyema being completed, no good can come from delay in the adoption of surgical measures. He prefers the method which gives free exit at once to the pus and provides efficient drainage. He makes the incision in the most dependent position, and, taking into consideration the barrel-shaped outline of the chest behind and the fact that patients usually prefer to lie on the back, the author selects the eighth or ninth interspace just outside the line of the angle of the scapula. He thinks the advantage gained by resection of the rib fully justifies the operation. Lobulated empyemata are better treated by separate incisions rather than by breaking down dividing partitions. The author has devised a metal self-retaining tube, which he describes. W. H. J. Huthwaite "reports two cases illustrating the importance of early recognition and energetic treatment.

Eye Strain.—Ernest Clarke "treats of the manifestations of eye strain upon the eye itself. He believes that one of the most important modes of treatment for blepharitis is the proper correction of the error of refraction, and the wearing of glasses. A strumous diathesis, dirt, and many other causes may exist, but the eye strain is the cause that determines the attack. The disease may be cured for a time by active local and gene-

ral treatment, but will return sooner or later unless the eye strain is relieved. The same may be said of many cases of keratitis, scleritis, iritis, glaucoma, and cataract.

Foot Deformities.—R. Martin Gill " describes a new instrument which he has devised for keeping the foot straight and in a proper position.

Foreign Body in the Left Bronchus of a Child.—Thomas and E. Junot " report a case. Foreign bodies may be arrested in the larynx, where they are apt to become fixed; in the trachea, where they are movable; in the bronchi, where fixed. In the larynx, either death occurs immediately from suffocation or there is modification of the voice, cough, and dyspnea. In the trachea and bronchi cough and dyspnea are continuous or interrupted by attacks of suffocation at first, but later the pulmonary symptoms are the most marked. The statistics as to treatment are as follows: Gross—85 cases not operated upon, 56 cured, or 65 per cent; 98 cases operated upon, 83 cured, or 84 per cent. Durham—271 not operated upon, 156 cured, or 57 per cent; 283 operated upon, 213 cured, or 75 per cent. Weist, out of 1,674 cases, found 76 per cent cured without operation, 72 per cent after operation. He holds that the mere presence of a foreign body without urgent symptoms does not necessitate operation. It may possibly be spontaneously expelled. Mineral bodies do not undergo much change; vegetables may swell and cause still more obstruction. Secondary accidents may be very serious. Nélaton considered death inevitable if the foreign body remained more than four days *in situ*.

Fracture, Simple and Compound, in the Shafts of Bone in Children.—Thomas M. Manley " says that in children the bone shafts are immature structures, the muscular resistance is less than in adults, the periosteum thicker, the cortex more elastic, and the cancellous or epiphyseal ends are highly vascular. The marrow is of a bright crimson hue and the circulation is very active. The displacement of the fragments is much less, as a rule, and repair goes on more rapidly, than in adults, yet we do encounter difficulties. The child is sometimes impatient and unmanageable. Any protracted or severe pressure may endanger the vitality of the limb. Growth ceases in femoral fracture until after complete osseous consolidation, while the healthy limb grows more rapidly than ever. There are various dyscrasias met with which delay union or cause vicious union. Place the limb in a comfortable position and be sure that the circulation is not embarrassed. The fracture should be inspected at frequent intervals. Compound or comminuted fractures are dangerous only after great loss of blood or when attended with internal injuries. Amputation is unjustifiable in any case.

Heart.—George Carpenter " reports a case of fibroid disease of the heart in an infant 12 months old who died suddenly. The patient had been in the hospital for hip-joint disease, and the autopsy revealed general tuberculosis. Examination of the

heart during life revealed nothing of importance. A microscopical examination revealed the fibroid changes.

Hip-joint Disease.—R. L. Swan, "in a consideration of tubercular disease of the hip, concludes from observations upon a number of cases that the ambulatory treatment is unsatisfactory, as it is manifestly impossible to so fix the articulation that no possibility of movement can exist. An even better reason is that, while a very grave state of malaise may for a long period be allowed to exist, the local conditions, if acute, imperiously demand recumbency, fixation, and traction. William Davis Foster " is certain that in the last stages of this disease bacteria become a prominent factor, whether the disease was originally tubercular or not. There is little difference in the treatment to be adopted in these cases.

Imperforate Rectum.—F. A. Higgin " thinks that the operation of puncture for the relief of this defect is generally condemned. The perineal operation is the one considered the most favorable to attempt, as it leaves the patient with the anus in natural position and with usually a fair control of the bowels in the event of success. If the rectum is not found within reach by this means, colotomy must be considered.

Influenza in Infants and Children.—L. Fischer " says that at various times we find a series of symptoms which baffle us. They simulate the pains in the limbs of muscular rheumatism; again, the gastric and enteric symptoms will simulate gastro-enteritis; or the coryza and cough will remind us of the onset of measles, or a severe form of bronchitis, possibly pneumonia. The disorder is very infectious, the period of incubation short, and, unlike most infectious diseases, one attack does not protect from subsequent ones. The mortality is high. The "influenza bacillus" is found in the blood of the infected child, but chiefly in the discharges from the nose, throat, and lungs. It is usually solitary, but may be united in chains of three or four elements. It stains poorly. The treatment is very simple. The author usually gives a hot mustard foot bath followed by friction and wrapping in blankets. In addition to this it is a good plan to promote diaphoresis by means of liquor ammonii acetatis. The drug most favored by the author is sodium salicylate, one grain for each year of age every two or three hours. The ordinary rules of therapeutics apply in influenza as well as they do in other diseases.

Intubation.—Joseph O'Dwyer " gives an address upon the evolution of this process.

Intussusception, Acute.—Charles H. Miles " reports a case of this disorder in an infant, in which the intussusception was reduced by distension with warm water under anesthesia.

H. Morell " treated a child of 6 months with morphine and rest. Death occurred on the third day.

Iodoform in Joint Tuberculosis.—Leonard Freeman " suggests the use of the skiagraph in determining just what part of the bone to remove in an operation or the best point to inject iodoform. He believes that a moderate amount of passive

motion is of value in cases where no pain, swelling, or increase of swelling results. Where the disease is progressing rapidly or is already far advanced, operations are in place.

Labyrinthitis.—C. Compaired " says that this disease is rarely seen by the otologist, because the symptoms resemble those of acute meningitis and the general practitioner is sent for. It occurs more often in children than in adults. It may result from parotitis, cerebro-spinal meningitis, and, more rarely, traumatism. It is essential to distinguish it from typhoid and from cerebro-spinal meningitis. In typhoid the deafness occurs at an advanced stage of the disease, while in labyrinthitis it occurs early. In the latter we have vertigo, and also, from the outset, cephalalgia, otalgia, prostration, delirium, and coma, all absent in the beginning of typhoid. But in labyrinthitis there is an absence of intestinal alterations, splenic and hepatic infarction, petechiæ, buccal hemorrhage, etc. The diagnosis from meningitis is more difficult. Meningitis is usually fatal, and when it is not is followed by paralysis. Labyrinthitis usually comes at the time of the formation of language, and leaves a deafness which is apt to cause deaf-muteness.

Luxation of the Hip.—M. Bilhaut " describes his method of procedure in operating in this disease. The obstacles to reduction consist in (1) a very thick, fibrous band which he has never failed to find at the inferior portion of the capsule; (2) shortness of the psoas and iliac muscles. His treatment, therefore, may be formulated as follows: 1. Intervention should occur early and have for its object the reduction of the femoral head into the cotyloid cavity. 2. After complete anesthesia the operation consists of the following steps: extension, abduction, outward rotation, flexion, and replacement by pressure upon the great trochanter. 3. Reduction to be maintained by a good plaster-of-Paris apparatus, immobilizing the patient for six weeks. 4. If walking cause a return of the trouble, or if reduction is not obtainable by external manœuvres, the bloody operation may give relief. 5. The process under discussion may be performed at any time from infancy to puberty, but the earlier it is done the better the chance of success. 6. All obstacles to coaptation are to be cut; these are the psoas and iliac muscles and the fibrous band at the inferior portion of the capsule. 7. The cotyloid cavity is to be excavated, and, if necessary, the dimensions of the capsule reduced.

Malformation, Congenital.—Naese " reports the case of a cretin who cannot walk nor stand, has double pes-calcaneovalgus, left genu-valgum, contractures of fingers and hands. The right tibia can be luxated forward, and does so spontaneously in active motion. The mother has harelip, and of eight children five are normal, one had congenital clubfoot and cleft palate, one had clubfeet and spina bifida. With the child under discussion labor was dry, and the author thinks that the absence of liquor amnii is responsible for the contractures, and that abnormal arterial pressure also played a part, together with diminished amount of activity on the part of the fetus.

Molluscum Contagiosum.—Kaposi " had a patient suffering from this disease. The first lesions were black or brownish, palm-sized, and raised on the cheeks; the head was covered as if by a hood with these dark eminences, as also the forehead and upper arm. Small, new lesions were found in the cervical region and on the temple. The characteristic "molluscum bodies" were not found until the third day of the disease. Intense seborrhea accompanied the disorder, and the size of the lesions suggests the name of molluscum contagiosum giganteum.

Milk.—John Lovette Morse " describes a method of home modification of milk which consists in separating cow's milk into cream and milk, and recombining them in different proportions, with the addition of water, lime water, and milk sugar, to imitate human milk. F. J. Allen " says that the addition of borax to milk seems to render it incapable of curdling. This action is probably due to the soda and not to the boric acid. The addition of calcium chloride restores the curdling property. It seems as if the borax removed the calcium salts from the field of action, and it is consequently feared that not merely will the curdling function suffer, but also the other functions of the body in which the calcium is needed.

Nævus Pigmentosus.—Schiff " reports the case of a child 8 years of age; a large congenital nevus covered most of the back and was accompanied by hypertrichosis. There were no other malformations. Nevus of this size is rare.

Ophthalmia Neonatorum.—Charles Abadie " says that when infection really exists the instillation of one or two drops of the nitrate of silver in a two per cent solution is of real service; but used as routine treatment in all cases, even when there is no infection, it causes a real ophthalmia, a chemical ophthalmia which midwives and untrained persons are apt to mistake for purulent ophthalmia and to treat as such, thus aggravating the trouble instead of curing it, and sometimes causing the cornea to become involved. The best prophylaxis consists in so cleansing the vagina of the mother that contamination of the child at birth is less likely to occur, and in carefully washing the infant's eyes and face, immediately after birth, with boiled water or with water to which boric acid has been added. If the discharges of the mother are under suspicion, then the silver nitrate should be used.

Otitis.—Lichtenberg " describes a case of otogenous perisinous and peridural abscess of the middle cranial fossa. Kaufman " also describes a case of perisinous abscess and pyemia cured by operation. Arthur H. Cheatle " thinks that it should be impressed upon parents that this disease is a menace to life as well as to hearing, so as to insure that patience during the treatment which is a great factor in its success. The author believes that the examination in these cases is not usually thorough. He describes methods of examination and treatment.

Papilloma of the Larynx.—F. Massei " reports the case of a child suffering from this disorder. Tracheotomy and laryngofissure were performed, the new growths extirpated, and the

child recovered. Granulations of some size returned, below the vocal cords, and were operated upon through the natural passages. The final result was excellent.

Paralysis.—The surgical treatment of infantile paralysis by arthrodesis is advocated, and a case reported by Carl Beck " of a cure by this means of paralysis of both legs. The operation should be done only after all hope is abandoned that the limb will become useful by the return of muscular action. Another condition is that power must be preserved in some muscles, at least, otherwise the stiffness of the knee and ankle will be of no advantage. The operation would be contraindicated shortly after an acute attack of poliomyelitis.

Peritonitis with Pneumococci in a Child of 8 Years.—Remy and Cordoux " had a patient who was suddenly seized with fever and vague pains in the abdomen. The following day vomiting, violent fever, and localized pain on the right side occurred, causing the physician to think of appendicitis. On the fourth day the symptoms were so much worse that surgical interference was deemed necessary. Hernia of the scrotum was suspected by the consultant; the organ was incised and there was a flow of greenish, thick, and fetid pus. The finger, inserted through the inguinal ring, pushed upon a mammillated mass which was apparently the epiploon, and a great amount of pus came from the abdominal cavity. To cleanse it necessitated laparotomy, which was performed. No internal lesion was found, except adhesions between the intestinal loops, especially one between the epiploon and the hernial orifice. The loops of intestine were covered by a grayish exudate, which was easily detached. The abdominal cavity was thoroughly washed out, a drainage tube introduced into the inguinal orifice, iodoform gauze placed in the abdominal wound, and the wound sewed up. Recovery was excellent. An examination of the pus showed the presence of pneumococci and staphylococci. Frank Warner " describes a case of suppurative peritonitis.

Perleche.—Under this name Henri Malherbe " calls attention to an affection of the labial commissure of children which is seldom described by dermatologists, and never in works upon the general diseases of children. The lesion is usually bilateral and consists of a white, moist, raised, and desquamating spot. Sometimes there are small, painful, bleeding fissures near the commissure. The affection may extend to the surrounding skin, but rarely to the buccal mucosa. From the result of bacteriological examinations the author believes the affection to be, not a specific disease, but a microbial one, due to various microorganisms, and contagious. It may be caused by germs from the mucous membrane of the mouth, children often having the habit of biting and licking their lips. The differential diagnosis from impetigo, herpes labialis, and seborrheal eczema is neither difficult nor very important, but with syphilis the matter becomes more serious, as the two diseases often appear to be manifested in the same way. Other symptoms of syphilis

will have to be looked for to establish the diagnosis. The prognosis is good, the treatment simple, consisting of cleanliness and antiseptic lotions or unguents.

Pertussis.—W. T. Burleigh " describes a case attended with several paroxysms of the chest, abdominal and laryngeal muscles. Oxygen gave relief.

Puncture of the Spinal Cord.—D'Arcy Power " says that the operation of lumbar puncture of the subarachnoid space has enabled us to place the diagnosis of meningitis upon a rational basis. No danger attends it, yet practitioners seem to shrink from it. G. Lazard " reports the case of a child of 13 months who was suffering from tubercular meningitis. It had reached the condition of coma. A trocar of the Potain apparatus was easily inserted between the sacrum and the lumbar region, six or seven millimetres outside of the median line. No fluid followed this procedure, and aspiration was equally unsuccessful. The canula was removed and the trocar inserted in the interspinous space directly above, and after a few minutes the liquid began to flow. It was at first strongly tinged with blood, and then became clear and limpid. Drop by drop forty-two grammes were taken out in an hour. A certain amount of consciousness returned in the evening of the day of the operation, but the child died on the following day.

Rachitis.—J. Comby, " in speaking of the treatment and the prophylaxis of this disease, says that, if it is not severe, hygiene may be sufficient. If deformity is noticeable more active treatment is needed. Under 1 year of age we give phosphated milk and salt baths; from 15 to 18 months, phosphated preparations, cod-liver oil, and phosphorus in small doses. Salt baths, and even sea baths, may be given. For anemia, the syrup of the iodide of iron and occasionally cold douches. If there are pulmonary complications, replace the baths by massage, dry friction, friction with camphorated alcohol. Genu-valgum is to be treated by apparatus or by operation. Prophylaxis consists in regulating the diet, securing regularity in nursing (six to eight a day), prolongation of nursing to twelfth or fifteenth month, with complementary nourishment from the eighth month. Rachitis is a disease which comes through the stomach.

Rectal Exploration as an Aid to Diagnosis.—George Carpenter " believes that this method of examination is not sufficiently recognized. He cites a case in which obstinate constipation was found to be due to myelo-sarcoma growing from the anterior surface of the sacrum. In another case which presented difficulties in diagnosis the rectal examination proved an umbilical fistula to be secondary to a prostatic abscess. Rectal examinations as an aid to abdominal diagnosis are of the greatest assistance in children up to 5 years of age, because it is possible to explore in them a considerable area of the abdominal cavity outside of the pelvis, especially under anesthesia. For this reason they are useful in determining whether tubercular peritonitis exists. The author was able in

one case to map out a horseshoe kidney, his diagnosis being verified by a post-mortem examination, the child dying from broncho-pneumonia. On several occasions he has been able to feel the invaginated bowel per rectum in intussusception. On the rare occasions when the examination of the pelvic organs is desired this method affords an excellent means of diagnosis.

Rheumatoid Diseases.—Gerhardt." Pseudo-rheumatism (articular) is observed in many contagious diseases, in three forms: joint pains, joint swelling and inflammation, and joint suppuration; occasionally serous fluid in the joint, periostitis, and suppurative osteitis. Some cases have been proved to be due to the bacterium of the original disease, and are said not to affect the heart. This is not true of gonorrhea and scarlet fever; in the latter 3.2 per cent of the cases had heart trouble. The wrists are most often affected in scarlet fever, the knee in gonorrhea, the hip in typhoid. Angina occurred in 21 per cent of Gerhardt's acute rheumatism cases and was usually mild. There are rheumatic cases not due to any bacterium.

Rubella.—An editorial" calls attention to the recent epidemic in New York. The disease is evidently very contagious and cases are rarely seen singly. The onset, as a rule, presents very few premonitory symptoms. The temperature rarely rises above 102°, nor is it usually prolonged beyond the third day. Itching is marked in some cases on the first day. The eruption is variable in appearance. As a rule the spots are a pale rose red, larger than those in scarlet fever, but considerably smaller and less blotchy than those of measles. They are rarely grouped and the skin does not assume a scarlet hue. In the present epidemic it has not been unusual to see the eruption disappear at the end of forty-eight hours. Commonly some evidence of eruption could be found after three or four days. A slight effusion about the eyes is usual, but marked catarrhal symptoms are lacking. There is constant presence of glandular enlargement, so much so that the diagnosis should be made with caution when it is absent. The glands most frequently affected are the cervical, postcervical, and suboccipital. A nest of small glands found low in the neck behind the sterno-mastoid is especially characteristic.

Sarcoma.—J. Collins Warren" reports a case in a boy of 14.

Scurvy in Infants.—Charles Townsend" reports twelve cases. All had pain, and the disease was mistaken for rheumatism. In eight pseudo-paralysis occurred; in four fusiform swellings of the legs were discovered. In nine the gums were swollen, spongy, and bleeding; in four ecchymoses of the skin were noticed; in five extreme pallor; in one hematuria; and three were complicated with a moderate amount of rachitis.

Spinal Paralysis.—A. Massy" gives a clinical study in the therapeutic value of electricity in the spinal paralysis of infancy.

Stammering.—A case cured by operation is reported by G. Hudson Makuen." The difficulty of speech seemed to be due to chorea of the facial, lingual, pharyngeal, and laryngeal muscles, due to adenoid growths in the vault of the pharynx.

He removed the adenoids and divided the frenum of the tongue well back. Frequent lingual traction was made to keep the cut edges of the frenum from uniting. Improvement in speech was very rapid after the operation.

Syphilitic Joint Disease in Children.—H. Betham Robinson" says that the epiphysitis of infants is the earliest manifestation of syphilitic disease of the bones and the joints. It develops rapidly and is accompanied by well-marked signs of inflammation. There is a tendency for the epiphysis to become loosened. Suppuration occurs only in exceptional cases. The prognosis is favorable. Symmetrical effusions are usually met with only in the knee joint. In some cases of osteitis with simple effusion the bone changes were very marked, but there was no evidence of any involvement of the synovial membrane. He has met with primary gummatous synovitis in only one child, where it exactly resembled the cases seen in adults.

Thyroid Treatment.—Heubner" found thyroid preparations useful in rachitis, especially in anemic cases. The bones do not improve, but the general condition does, and the weight also. Leone Maestro" studies the use of this remedy in the tetany of childhood, and concludes that administration of the thyroid gland causes a diminution in the severity and frequency of the attacks and shortens the disease. Children tolerate the treatment well. In infants it is best to administer it raw or slightly cooked.

Typhoid Fever.—Charles Svehla" describes four cases. The first was not accompanied by any fever and was rather of the gastro-enteric type; the sensorium was practically unaffected and the spleen was not enlarged. But the brothers of the patient became ill with typhoid, and the Eberth bacillus was found in his urine and blood. The second case was typical; the third was complicated by diphtheria and pneumonia, which caused death. The frequency of diphtheria in typhoid is, according to Hoelscher, one hundred and one out of two thousand cases. The fourth case was complicated by gangrene of the buccal mucosa and necrosis of the superior maxilla. The author calls attention to the fact that desquamation of the skin sometimes occurs after typhoid, analogous to the falling of the hair. Bacteriological examination revealed Eberth's bacillus in only one of the above cases. The author believes that the bacillus develops slowly; in three of the investigations the agar cultures were thrown away on the third day, but the fourth was retained, and a week later the bacillus was found. Newman has found it eleven times in forty-eight cases of diphtheria, Seitz in two out of seven, Konjajeff in three out of twenty, Hueppe one out of sixteen, and Gross one in one. Gross attributes much importance to albuminuria, stating that the results are negative when there is no albumin, and Konjajeff also holds this view. He says that the discovery of a typhoid bacillus in the urine is proof positive of a lymphatic affection of the kidneys of bacterial origin. Pyelitis and cystitis during the course of the fever may be attributed to the same origin.

Urethra.—Charles Waller " reports a case of congenital occlusion of the urethra.

Vaccination.—T. Colcott Fox " discusses some of the accidents of vaccination. Some of these are due, not to impure lymph, but to the vigor of the lymph, to the idiosyncrasy or special constitution of the patient, or to imperfection in the details of the operation. Certain diseases may be inoculated with the vaccinia. Edward Seaton " takes up the subject from a legislative point of view. He believes that systematic, primary vaccination is indispensable and that it cannot be secured entirely without some amount of compulsion. S. Moncton Copeman " compares the manifestations of small-pox and vaccinia. E. J. Edwards " considers the two diseases statistically.

Varicella, accompanied by Scarlatinal Rash, in a child of 2 years is reported by J. Comby."

Vitiligo.—Vladimirow " says that this disease is rare in childhood. In a case seen by him, a child of 6, the lesion first appeared around the right eye; the eyelashes and hair lost their color. The disease lasted six months; there were no subjective symptoms. Fowler's solution was given for five months, when the disease was cured, but the lashes remained colorless.

Vulvo-vaginitis in Children.—A. Veillon and J. Halle have " studied the subject from a bacteriological point of view. They present a full and detailed report, describing the methods of culture and study, giving cases and bibliography, and summing up as follows: The majority of these cases are of gonorrheal origin, proved conclusively by the presence of the gonococcus. In very acute vulvo-vaginitis the gonococcus is usually unmixed; in other instances it may be associated with the normal microbes of the vagina. In its normal state the vagina of a child contains only non-pathogenic organisms. Even slight discharges may be of a gonorrheal origin, and it is well to always make a bacteriological examination. As a rule the microscope will be sufficient, but in doubtful or negative cases cultures should be made. The presence in the normal or diseased vagina of a bacillus similar to the Klebs-Löffler bacillus should not occasion a hasty diagnosis of diphtheria. The presence of the gonococcus does not necessarily imply a venereal origin, as contact may be indirect. Herman B. Sheffield " gives an account of an epidemic of infectious vulvo-vaginitis in sixty-five cases in an orphan asylum, and a study of this disease and the purulent ophthalmia which so frequently complicates it. His conclusions are the following: That the disease is of gonorrheal origin, the diplococcus present in the purulent discharges being invariably identical with that of Neisser; that infection can be conveyed through common privies, baths, beds, clothing, etc.; that the symptoms are less severe than is usually supposed. Most of the symptoms are preventable. In purulent ophthalmia silver nitrate in strong solution is a reliable abortive if used in the early stages; mild silver nitrate and boric acid are of doubtful efficacy. Gonorrheal discharges in a small girl without injury

to the genitalia does not prove rape. The physician should be careful not to admit girls with vaginal discharges to asylums, unless sure that it is not gonorrheal. The subject deserves a more careful study by the gynecologist, the pediatricist, the general practitioner, and the medical jurist.

Weight of Infants.—Charles W. Townsend "states that the average weight in a thousand full-term infants was as follows: five hundred male infants, seven pounds nine ounces; five hundred female, seven pounds five and one-tenth ounces. It may be said that a slightly slower heart rate in boys depends upon the slightly heavier weight of the sex, yet some very heavy babies had rapid hearts.

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ORIGINAL COMMUNICATIONS.

**SUSPENSIO UTERI WITH REFERENCE TO ITS INFLUENCE
UPON PREGNANCY AND LABOR.¹**

BY

CHARLES P. NOBLE, M.D.,
Surgeon-in-Chief, Kensington Hospital for Women,
Philadelphia.

THE status of suspensio uteri, or ventral fixation of the uterus, has been very definitely determined, with the exception of its relations to pregnancy and labor. The operation has been before the profession since April 25th, 1885, when it was originated by Dr. Howard A. Kelly. Experience has definitely proven that in good hands it is a simple and satisfactory procedure for the cure of retrodisplacements of the uterus, and that it is a valuable addition to the technique of operations for the cure of procidentia uteri. In good hands the operation hardly has a mortality rate, and has been attended with few of the accidents and sequelæ which are common to all surgical procedures. It has also been shown that the results secured by this operation are permanent and that the percentage of relapses is very low. In other words, as a gynecological operation it is

¹ Read before the American Gynecological Society, May 27th, 1896.

very satisfactory, both as to its performance and in its results. From this standpoint the most that can be urged against it is that for the cure of movable retrodisplacements of the uterus it seems a formidable matter to open the abdomen; and, further, that the operation undoubtedly elevates the uterus above its normal plane in the pelvis. Practically, however, these two theoretical objections have proven to be of little importance.

The influence which this operation will have upon pregnancy and labor is a question which has deterred many operators from employing it as a routine procedure. The effect which the attachment of the uterus to the abdominal wall will have upon the development of the pregnant uterus and upon the course of labor is the very practical question with which this paper has to deal. My own attention was called very forcibly to this point by the difficulties in labor encountered by two patients upon whom I had performed ventral fixation. The history of these cases is as follows:

CASE I.—Mrs. A., aged 23, multipara, was operated upon May 22d, 1893. Her uterus was curetted, lacerations of the cervix and perineum were sewed up, a painful and prolapsed right ovary was removed, and the retroverted uterus was attached to the abdominal wall by buried silkworm-gut sutures. She became pregnant and was admitted to the Preston Retreat for her confinement, under the charge of Dr. Richard C. Norris. This case was reported by Dr. Norris in *THE AMERICAN JOURNAL OF OBSTETRICS*, vol. xxxii., page 938. Dr. Norris says: "After several hours of ineffectual labor pains I examined the patient and was surprised to find what at first appeared to be a uterine fibroid resting above the symphysis pubis and seriously obstructing the pelvic inlet. The true character of the tumor was made apparent when I recognized that it alternately hardened and relaxed with each recurring uterine contraction. The buried silkworm-gut stitches of the ventrofixation were plainly felt through the abdominal wall at the upper margin of the mass of hypertrophied muscle. It was apparent that the anterior uterine wall, fixed with the fundus by the sutures, had practically been folded on itself during its physiological hypertrophy throughout pregnancy, and now formed a tumor obstructing delivery. No presenting part was felt through the cervix. The patient was etherized and a careful examination was then made. The posterior uterine wall, which formed almost the entire uterine sac, was so thinned that the intestines, containing fecal masses, could readily be felt by the hand in

the uterus. Realizing the imminent danger of rupturing the uterus, the position of the child was carefully determined. Its head was high on the left, occupying the region of the mother's spleen. The child's breech lay in a depression between the upper margin of the mass of muscle and the upper anterior uterine wall. The feet and legs were in contact with the anterior uterine wall.

It was absolutely impossible, without violence, to carry my hand around the obstruction and grasp a foot, or to dislodge the breech from the depression in which it was resting. Realizing the danger of rupturing the uterus, cephalic version was cautiously performed and the head was crowded between the sacral promontory and the obstructing mass of muscle. A very high application of Tarnier's forceps enabled me to deliver the child, when I discovered that the umbilical cord had been compressed between the child's head and the mass of muscle above the symphysis. The infant, in consequence of this accident, perished. The patient's puerperium was normal. The uterus involuted properly and remained fixed to the anterior abdominal wall by the silkworm-gut sutures."

CASE II.—Mrs. L., aged 37, V-para, was operated upon September 13th, 1894. A placental polyp was removed and the uterus curetted. The abdomen was then opened, adhesions broken up, a diseased ovary and tube removed, and the uterus attached to the abdominal wall by buried silkworm-gut sutures. Mrs. L. became pregnant in February or March, 1895. On December 1st, 1895, she consulted me, when the following conditions were present: Her general appearance was healthy, and she was evidently at full term of pregnancy. The abdomen was unduly prominent, the fundus evidently being held down by the abdominal sutures, which caused an undue projection in the lower part of the abdomen. The cervix was found to be high up in the hollow of the sacrum. On inquiry the patient stated that she had had some pelvic distress early in the pregnancy, and that recently she felt as though the womb was being drawn downward and forward.

Mrs. L. fell in labor January 2d, 1896. She was attended by Dr. William E. Parke. Labor began by rupture of the membranes and discharge of the liquor amnii. The pains were trifling in character for about twenty-four hours, when I saw her in consultation with Dr. Parke. The ordinary vaginal examination failed to discover the cervix uteri, and it was only when the half hand was introduced into the vagina that the

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TABLE OF CASES OF LABOR FOLLOWING SUSPENSIO UTERI OR VENTROFIXATION
AND COLLATED BY

Name.	1. Number of cases.			2. Over what period of time have operations extended?	3. Method of suturing uterus to abdominal wall.	4. If buried sutures, absorbable or non-absorbable?	5. Structures of abdominal wall included in suture.	6. Pregnancies following operation.
Dr. William J. Mayo.	33	3	80	8½ years.	Kelly's	Non-absorbable—silk.	Peritoneum only.	2
Dr. Egbert H. Grandin.	1	.....	.....	.....	.....	Non-absorbable—silk-worm gut.	Aponeurosis not included.	1
Dr. William M. Polk.	46	3	.....	7 years.	Olshausen's	Non-absorbable—silk.	Peritoneum only.	1 reported.
Dr. Richard B. Maury.	1	None.	.....	2 years.	Kelly's	Non-absorbable—silk.	Peritoneum only.	1
Dr. Alfred C. Carpenter.	87	8	16	5 years.	Through-and-through suture—silk-worm gut. Anterior wall of uterus.	Never used ..	Through-and-through.	6
Dr. H. R. Holmes.	1	.....	.....	1 year.	.....	.....	.....	1
Dr. J. Chalmers Cameron.	1	.....	.....	.....	.....	.....	.....	.....
Dr. L. H. Dunning.	15	11	4	4 years.	One stitch through each horn and up through abdominal wall, including aponeurosis, in six cases. Five cases kangaroo tendon, when the stitches were passed centrally through the uterus.	Silk-worm gut, six cases; kangaroo tendon, five cases.	Aponeurosis included.	2
Dr. X. O. Werder.	42	5	37	5 years.	First three years Olshausen's; last two years Kelly's.	Non-absorbable.	Aponeurosis included.	4
Dr. F. Hendroff.	25	8	8	3 years.	One suture placed posteriorly.	Non-absorbable—silk-worm gut.	Aponeurosis included.	1
Dr. J. Montgomery.	.....	.....	.....	4 years.	Some buried sutures, some through-and-through.	Non-absorbable.	Included aponeurosis.	3

OF THE UTERUS, REPORTED TO THE WRITER BY PRIVATE CORRESPONDENCE
DR. C. F. NASSAU.

7. Per cent of abortions resulting.	How many at full term?	8. In labor at full term, what difficulties encountered in the deliveries?	9. To what do you attribute difficulties?	(a) Opinion on removal of sutures? (b) Uterus to the peritoneum only? (c) Whether sutures include muscles and aponeurosis as well as peritoneum?
None.	2	One easy—low forceps; normal labor; child eleven pounds.		Prefers Kelly's method, as it gives a very movable band of adhesions.
None.	1	None.		
.....	1	.....	.....	Has abandoned the operation for Alexander's, for symptomatic and anatomical reasons.
One hundred per cent.	.....	None.	.....
None.	5	Normal labor.....	.....	It is my belief that there are no obstetrical risks if no buried sutures are used. Attribute abortion to the suture causing constant irritation and hindering growth of uterus. Uterus in apparently normal position four months after labor.
.....	1	None.....	.....
.....	.....	Severe pain, uncontrollable vomiting, with progressive emaciation, in a case attended by me where ventrofixation had been performed two years previously. Four previous normal pregnancies. In above case premature labor was induced with some difficulty, and a living child delivered. Total relief of symptoms.	To the pulling of the ligaments of the uterus during pregnancy.	
None.	1, and 1 undelivered.	None.....	.....	The case that went to full term suffered intensely with nausea and vomiting during the early months. Several months after labor uterus in good position; limited range of motion.
Twenty-five per cent.	Seventy-five per cent.	None.....	Except in one case of myomectomy, in which the uterus was opened, both ovaries left. Complication hemorrhage through utero-abdominal fistula, which persisted from time of operation and promptly healed after delivery.	The difficulties in this case were due to technique rendered necessary by the circumstances. He will in future include peritoneum and preperitoneal tissue only, suturing the posterior surface of the fundus. Except in procidentia, when he will include the aponeurosis for firm suspension.
None.	1 not yet delivered.	.....	.....	She was five months pregnant. No painful symptoms. No deaths. One recurrence. Prefers vaginal work for the treatment of displacements.
None.	8	None; in one case labor easier than before.	.....	If the uterus remained attached I cannot see what difference there would be whether or not a buried suture existed.

Name.	1	Number of cases?	(a) Both ovaries removed at same or previous operation?	(b) When at least one ovary remained?	2. Over what period of time have these operations extended?	3. Method of suturing uterus to abdominal wall.	4. If buried sutures, absorbable or non-absorbable?	5. Structures of abdominal wall included in suture.	6. Pregnancies following operation.
Dr. Helena Goodwin.	Reports a case operated on by Dr. Kelly in 1889 at the Johns Hopkins Hospital, that in left side of abdominal incision; child born dead; long-continued and severe mass on left side of pelvis, section by Dr. Anna Broomall; right tube and ovary								
Dr. Mary H. McLean.	Reports a case of twin pregnancy following suspension done by Dr C. P. Noble. One requiring packing of uterus; bilateral cervical tear, slight perineal tear (both of the uterus or the feeble pains.								
Dr. J. H. Davenport.	3	.....	8	10 months	Through-and-through, silk-worm gut, posterior surface of uterus.	None used.	.....	One case twice pregnant.
Dr. Howard A. Kelly.	200	7	9?	6 years.	Kelly's	Non-absorbable—silk.	Peritoneum only.	Twelve pregnancies reported; nine confinements.	
Dr. Charles P. Noble.	65	13	52	4 years.	Silkworm-gut buried sutures; in six cases buried silk.	Non-absorbable.	Fifty-nine aponeurosis, muscle, and peritoneum, six peritoneum only.	Three.	
Dr. C. E. Ruth.	7	3	4	2½ years.	Buried silkworm gut.	.....	Aponeurosis, muscle, and peritoneum.	Two.
Dr. I. S. Stone.	21	4	7?	4 years.	Fascia included.	Non-absorbable—silk-worm gut.	.....	Two.
Dr. S. C. Gordon.	25	20	1	.....	Two sutures through posterior surface. In one case sutures introduced in anterior wall.	Absorbable—catgut.	Fascia included.	One case now pregnant—the case with one ovary.
Dr. Henry D. Fry.	5	3	2	1 year.	Two sutures posterior surface of fundus.	Non-absorbable—silk.	Subperitoneal tissue only included.	No.	
Dr. Paul F. Mundé.	12	.....	.....	10 years.	Fundus to abdominal wall; three sutures; fundus scraped raw.	Never used.	Through-and-through—silk-worm gut.	1

7. Per cent of abortions resulting.	How many at full term?	8. In labor at full term, what difficulties encountered in the deliveries?	9. To what do you attribute difficulties?	(a) Opinion on removal of sutures? (b) Uterus to the peritoneum only? (c) Whether sutures include muscles and aponeurosis as well as peritoneum?
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became pregnant in 1893 (labor January 16th, 1894). Had some pain; breech presentation; much pain after-pains; high temperature on third day; uterus curetted and packed. May 7th, on account of removed; exudate on left not removable, still remaining. ovary removed. Instrumental labor; both children delivered alive (girls); post-partum hemorrhage, repaired; comfortable convalescence. Doctor is not able to account for the want of proper contraction

One hundred per cent.	.....	.....	.....	Does not think abortion caused by operation; other good cause—fall downstairs at ninth week. The above case again aborted, after a hard day's work, at three or four months.
One miscarriage after dancing.	Seven perfectly normal.	.....	.....	In one case there were two confinements normal. One case suffered much pain during gestation. Two cases retained placenta. These statistics as to pregnancies are based only on seventy-five cases heard from by Dr. Stokes, out of one hundred and fifteen operations.
.....	Three.	One difficult forceps extraction; one Porro operation; one powerless labor twin pregnancy, forceps delivery.	See paper.	NOTE.—The woman upon whom the Porro operation was done was septic before operation (pulse 130, temperature 108° F.) and died of septicemia.
Fifty per cent (induced).	One	No difficulty; delivered of an eight-pound child.	.....
None	Two.....	No difficulty.....	.....	Recently includes peritoneum and very little muscle; no fascia. Believes in the future of the operation. Feels quite sure catgut is sufficiently strong suture. Never uses any other suture material or ligature, except silkworm gut for abdominal incision. Knows of no cases of abortion after the operation; does not think it would cause it. Does not think that the adhesions formed by this operation would be of any value after being once stretched by pregnancy.
Had under his care married woman, five months pregnant, who was operated on only four months before. At the time it was not known she was pregnant. No bad results followed, and while under his observation presented no unusual features.	.....	.....	.....	Thinks that any bad effects that might occur would be caused by limitation of the growth of the anterior wall of uterus.
Aborted at fifth month.	.....	.....	.....	Thinks operation a bad one from obstetrical standpoint theoretically, as the growth of the uterus is prevented.

Name.	1. Number of cases.	(a) Both ovaries removed at same or previous operation.	(b) When at least one ovary remained.	2. Over what period of time have these operations extended?	3. Method of suturing uterus to abdominal wall.	4. If buried sutures, absorbable or non-absorbable?	5. Structures of abdominal wall included in suture.
Dr. James Clifton Edgar.	1	1	.....	Few months	Through-and-through.	Silkworm gut.	.....
Dr. Charles B. Penrose.	Between 75 and 100 (85?).	Five to ten per cent. (Seven?)	About ninety per cent. (Seventy-eight?)	2½ years.	Two sutures through a small amount of muscle, peritoneum, and one-third of an inch of uterine tissue.	Non-absorbable—silk.	Muscle and peritoneum. Fascia never included.
Dr. Charles L. Ill.	Knows of nearly 90 cases done by his brother.	.....	.....	.....	Two through-and-through sutures, including posterior portion of fundus.	Silk. ....	.....
Dr. George M. Edebohl.	73	31	42	7 years.	Fundus scraped and attached to abdominal wall by three sutures—one suture anteriorly, one directly in fundus, one one-quarter inch posteriorly.	Seventeen cases through-and-through—silkworm gut. Fifty-six buried sutures—two kangaroo tendon, forty-three silkworm-gut, eleven chromicized catgut.	In 53 of the 56 cases buried sutures, fascia was included; in 4 peritoneum and muscle only.
Dr. A. MacLaren.	12	.....	.....	.....	Fascia included in sutures.	One buried silk, eleven silkworm gut.	Fascia included.

NOTE.—Since writing the paper the "tables" have been corrected by the various operators, making changes have been unimportant, the figures in the body of the paper have not been altered. On the have been reported without any further serious difficulties.

6. Pregnancies following operation.	7. Per cent of abortions resulting.	How many at full term?	8. In labor at full term, what difficulties encountered in the deliveries?	9. To what do you attribute difficulties?	(a) Opinion on removal of sutures? (b) Uterus to the peritoneum only? (c) Whether sutures include muscles and aponeurosis as well as peritoneum?
In one case now at four months.	.....	.....	.....	.....	Has had two cases of spontaneous ventrofixation following laparotomy. Both of these cases have suffered great pain from the adherent uterus. First case has miscarried several times. Attributes this to the adherent uterus. Thinks difficulty would result in cases where the fascia and too much uterine tissue had been included in the sutures. Thinks better to include a little bit of muscle than only the peritoneum. Is perfectly satisfied with his technique and the results of his operations.
8	<p>CASE I.—Criminal abortion at two months.</p> <p>CASE II.—Delivery at term without complications.</p> <p>CASE III.—Was admitted to Woman's Hospital at term in septic condition. Delivered without difficulty by Dr. H. C. Coe of a fetus which had been dead some time. Patient died septic March 5th, 1895. Dr. Coe states that the ventral fixation bore no apparent relation to her condition on entrance or to her death.</p> <p>CASE IV.—Death from heart disease on eve of confinement at term.</p> <p>CASE V.—Delivery at term—no complications.</p> <p>CASE VI.—Two pregnancies and two deliveries at term. First delivery by forceps, second unaided; both without complications.</p> <p>CASE VII.—Delivery at term—no complications.</p> <p>CASE VIII.—(Through-and-through silk-worm gut.) Delivery at term—no complications.</p> <p>CASE IX.—Delivery at term without complications.</p> <p>CASE X.—At present comfortably pregnant six months.</p>	.....	No difficulty encountered.	Requires no answer, as there were no difficulties.	Does not consider the obstetric risks very great. Does not think that the risks, if any, depend upon the suture material, or whether buried or not, or upon amount of tissue included in the suture, but upon what part of the uterus is attached to the abdominal wall. Does not consider Kelly's technique good—does not allow the posterior uterine wall to expand sufficiently. Personally has not the least doubt that shortening the round ligaments will stand trial better than its competitors.
2	None	One labor at full term; one case at seventh month.	No difficulties.	.....	The patient of seven months has been threatened with miscarriage, but thinks that now she will carry her child to full term. April 15th, 1896, safely delivered at term. No complications.

Some slight changes in the total number of cases of pregnancy following suspensio uteri. As these whole, the changes indicate a more favorable showing for the operation, as a number of additional labors

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TABLE OF CASES OF SUSPENSIO UTERI OR VENTROFIXATION OF THE
BY PRIVATE CORRESPONDENCE AND

Name.	1. Number of cases.	(a) Both ovaries re- moved at same or previous operation.	(b) When at least one ovary remained.	2. Over what period of time have opera- tions extended?	3. Method of suturing uterus to abdominal wall.	4. If buried sutures, absorbable or non- absorbable?
Dr. William H. Baker.	20	8	5	8 years	Aponeurosis is included.	Silk, 18; catgut, 2.
Dr. William H. Parish.	5	.. .. .	3	2 years	Through-and-through- silkworm gut.	.. . . .
Dr. Joseph Taber Johnson.	5	None	.. . . .	7 months.	.. . . .	Non-absorbable- silk.
Dr. Henry C. Coe.	50 ?	38	.. . . .	6 years ..	Kelly's or modification in one-third, Czerny's in two-thirds.	Non-absorbable....
Dr. M. D. Mann.	3	.. . .	.. . .	.. . .	.. . . .	Non-absorbable- silkworm gut.
Dr. E. E. Montgom- ery.	50	7	43	7 years ..	Various methods ...	43 non-absorbable, 3 absorbable, 4 through-and- through.
Dr. Ernest W. Cusah- ing.	25	12	13	7 years ..	Four cases fundus sutured to abdominal wall. Then Wylie's shortening of round ligament with one suture on each side of uterus through whole abdominal wall.	Catgut used on round-ligament cases.
Beverly McMonag- le.	42	7	4	3½ years..	Kelly's.....	38 cases silk, 4 cases silkworm gut.
Dr. James H. Etheridge.	35 ?	.. . . .	.. . . .	.. . . .	.. . . .	.. . . .
Dr. Charles Jewett.	4	1	3	6 years ..	Various methods.....	.. . . .
Dr. F. H. Davenport.	4	1	3	6 years ..	Through fundus; slight- ly anterior near origin of round ligament.	Silk
Dr. L. M. Michaelis.	Has a very interesting case, which he will report upon request.					
Dr. Edward Reynolds.	6	where ovary was re- moved.	neither	7 years ..	Fundus, or sometimes broad ligament at side of fundus, sutured to abdominal wall.	Through-and- through-silk- worm gut.

UTERUS NOT FOLLOWED BY PREGNANCY, REPORTED TO THE WRITER
COLLATED BY DR. C. F. NASSAU.

5. Structures of abdominal wall included in sutures.	6. Pregnancies following operation.	7. (a) Percent of abortions resulting.	7. (b) How many at full term?	8. In labor at full term, what difficulties encountered in the deliveries?	(a) Opinion on removal of sutures? (b) Uterus to peritoneum only? (c) Whether sutures include muscles and aponeurosis as well as peritoneum?
Through aponeurosis.	None reported.	None ..	None	None	
Aponeurosis included.	No.	None ..	None		Thinks obstetric risk minimum when sutures are removed. Considers trouble might follow fastening of uterus in any position.
Aponeurosis included.	None known.				Regards risk as small, especially if sutures are permanent and include fascia also.
Aponeurosis included.					Does not consider the operation a proper one on physiological and anatomical grounds. When the possibility of pregnancy remains, prefers Alexander's and his own operation.
Aponeurosis included in some cases.	1 through-and-through suture.				I should be inclined to believe risk is less where sutures are removed. In using buried sutures, believe it makes no difference whether muscles are included or not.
Through-and-through silk or silkworm gut.	Not known.				Feels that it is dangerous to fasten the uterus too firmly to abdominal wall, on account of incarceration of the intestine. Is now doing vaginal fixation.
Peritoneum and few fibres of overlying muscle.	None known.				Does not think that if the uterus is sutured in such a manner as to allow the new ligament to stretch so that the uterus becomes fully movable, there would be any trouble.
					Has done a number of operations (35?). No known pregnancies. Formerly used silkworm gut buried, but on account of sinuses abandoned them for through-and-through silkworm-gut sutures.
	None				Thinks there must be increased danger of premature labor if the fixation be permanent. Does not think fixation necessarily inconsistent with development to term. Thinks weak adhesions would probably be torn.
Through aponeurosis.	None known.				See no objection to buried sutures. Prefer passing sutures through aponeurosis.
Whole thickness of wall.	No pregnancies.				Does not think there is any serious obstetrical danger.

anterior lip of the cervix could be felt. Under anesthesia the os was found undilated but dilatable, and opposite the sacral promontory. It was also found that a large tumor blocked up the inlet of the pelvis. This evidently was constituted by the hypertrophied fundus and anterior wall of the uterus, held down by the abdominal sutures. The tumor made a shelf-like projection, on which the buttocks of the fetus rested. It was quite easy to reach around the mass and to feel with the finger tips the feet and parts of the legs, but it was impossible to grasp a leg to bring it down. Further attempts to deliver were discontinued for ten hours, in the hope that the obstruction would soften down. Dr. Parish then saw the patient and also failed to bring down the feet. No alternative existing, the Porro operation was performed. Unfortunately the patient became infected during the attempts to perform extraction, and at the time the Porro operation was done her temperature was 103° and her pulse about 130. She died on the seventh day of general septicemia.

The nature of the obstruction in both these cases was the same, in the second case being greater than in the first. The simple relation of the cases makes any remarks upon the dangers of this complication superfluous. It is interesting to find that the period of gestation in both these cases was ten months instead of nine.

The relation between the operation and the obstruction to labor, in these cases, was so evident that I felt compelled to make a careful study of the whole question, in order to determine the nature and the degree of risk which is run by a woman of child-bearing age in submitting to this operation. In order to secure all available data I entered into correspondence with many of the prominent operators in this country, and at the same time, through the medical press, solicited reports of cases of pregnancy and labor following suspensio uteri, and also had collected from foreign medical journals all the cases of pregnancy and labor following this operation. The result of these investigations is set forth in detail in the tables on pages 164-171.

From American operators I have collected eight hundred and eight cases of suspensio uteri in which at least one ovary remained, so that pregnancy was possible. These same operators did one hundred and ninety-eight operations when both ovaries were removed. Among the eight hundred and eight women operated upon there have been fifty-six pregnancies, or six and nine-tenths per cent. Seven women remain undelivered. There

have been six abortions, or ten and seven-tenths per cent. Forty-three have been delivered at full term or shortly before it. There have been three deaths. One followed a Porro operation done by the writer, in a woman who was septic when the operation was done; she died of septicemia. There were two deaths among the cases of Dr. Edebohls. One died of heart disease before labor, and the other was septic before labor, the sepsis being due to a dead ovum. In two of these cases the operation proved to have nothing to do with the death, and therefore we may consider that there has been only one death attributable to the operation, which would make a mortality in labor of about two per cent.

The complications in labor have been as follows: forceps delivery, three; Porro operation, one; retained placenta, two; septic before labor (Edebohls' No. 3), one; heart disease (Edebohls' No. 4), one; uncontrollable vomiting (labor induced), one.

The influence of the operation upon fertility is merely indicated by the fact that of eight hundred and eight women operated upon there have been only fifty-six pregnancies. The only safe conclusion to draw from this fact is that pregnancy is not so liable to take place among women requiring suspensio uteri as among women in general.

Of the fifty-six pregnancies six have terminated in abortion, or ten and seven-tenths per cent. A further study of this question shows that two of the abortions occurred in the same woman, that a third occurred after dancing, and that a fourth was probably criminal. This would indicate that the operation has no tendency to induce abortion.

Of the three deaths two were believed by those in attendance to have no connection with the operation. One certainly had not, as the woman died of organic heart disease. In my own case the Porro operation was necessary because the hypertrophied anterior wall and fundus of the uterus were imprisoned below the point of attachment to the abdominal wall and constituted a tumor obstructing the inlet of the pelvis. This woman unfortunately became infected during the attempts to deliver *per vias naturales*, and was septic at the time the Porro operation was done.

The remaining complications in labor have been few—three forceps deliveries, two retained placentæ, and one induced labor on account of uncontrollable vomiting.

It would appear that the only legitimate deductions to be

TABLE OF LABORS FOLLOWING VENTROFIXATION OF THE UTERUS, COLLATED FROM FOREIGN SOURCES BY DR. ALFRED GORDON.

Names of operators or reporters.	Reference.	No. of pre-natal operations.	No. of abortions.	No. of premature labors.	No. of labors.	Complications in labor.	Technique.
Singer.....	Centr. f. Gyn., 1891.....	5	1	4	Olshausen's. Leopold's. Leopold's. First time, three superficial sutures with silk; second time, deep sutures through the uterine muscle. Two sutures with silk. Three sutures with silk on the peritoneum of the symphysis. Uterus fixed to the peritoneum of the symphysis. One suture on the fundus with silkworm gut. One suture on the fundus with silkworm gut. One suture on the fundus with silkworm gut.
Singer.....	Centr. f. Gyn., 1892.....	5	1	.....	2	.....
Olshausen.....	Centr. f. Gyn., 1891.....	2	.....	.....	2	One version.
Klotz.....	Centr. f. Gyn., 1891.....	7	.....	.....	.....	.....
Leopold.....	Centr. f. Gyn., 1891.....	2	.....	.....	1	.....
Praschnick.....	Centr. f. Gyn., 1891.....	2	.....	.....	.....	.....
Spreng.....	Zentralbl. f. Geb. u. Gyn., 1891.....	11	.....	.....	3	.....
Gottschalk.....	Deut. Med. Woch., 1891.....	.....	.....	.....	.....	.....
Gottschalk.....	Centr. f. Gyn., 1891.....	1	1	.....	.....	.....
Kummel.....	Centr. f. Gyn., 1892.....	1	1	.....	1	Artificial extraction during two hours.
Mackenrodt.....	Monatsschr. f. Geb. u. Gyn., 1895.....	1	.....	.....	.....	Forceps.....
Wegener.....	Centr. f. Gyn., 1893.....	1	1	The peritoneum of the bladder is sutured to that of the uterus by means of catgut near the broad ligaments. Another suture penetrates the parietal peritoneum one and a half centimetres from its edge, then enters near the origin of the round ligaments, passes through the uterine muscle, and goes out on the opposite side of the peritoneum. Some other sutures unite the abdominal wall with the anterior face of uterus. Olshausen's. Silkworm gut.
Currier.....	Centr. f. Gyn., 1893.....	2	.....	.....	2	.....
Lohlein.....	Deut. Med. Woch., 1894.....	1	.....	.....	.....	One forceps.
Jacobs.....	Arch. de Toc. et de Gyn., 1891.....	1	.....	.....	1	.....
Jacobs.....	Ann. de Gyn., 1891.....	1	.....	.....	1	.....
Jacobs.....	Gaz. hebdom. de Paris, 1892.....	3	.....	.....	3	.....
Marquière.....	Ann. de Gyn., 1891.....	2	2	.....	7	.....
Rivière.....	Arch. de Toc. et de Gyn., 1893.....	12	.....	.....	1	.....
Fraipont.....	Gaz. hebdom. de Paris, 1892.....	2	.....	1	.....	.....
Fraipont.....	Gaz. hebdom. de Paris, 1893.....	2	.....	.....	4	.....
Cadilhac.....	Gaz. hebdom. de Méd. et de Chir., 93.....	2	.....	.....	2	.....
Sinclair.....	Presse méd. de Paris, 1894.....	2	.....	.....	2	.....
Frommel.....	Gaz. des Hôp. de Paris, 1894.....	1	1	Two forceps.	Olshausen's. Silkworm gut.
Gaillet.....	Arch. de Toc. et de Gyn., 1895.....	4	.....	.....	4	Cesarian section.....
Gaubert.....	Revue méd., 1895.....	1	.....	.....	1	Four forceps, two Cesarian sections, four versions, one podalic extraction.
Milander.....	Presse méd. de Paris, 1896.....	76	12	3	61	.....
Coadamin.....	Prov. méd., 1895.....	1	.....	.....	1	.....
Goulloud.....	Prov. méd., 1895.....	1	.....	.....	1	.....
Bion.....	Dies. Berne, 1895.....	94	.....	.....	24	.....

drawn from these statistics are: 1. That women subjected to this operation are less apt than others to become pregnant; (2) that pregnancy and labor, as a rule, are uncomplicated; (3) that inertia uteri is not infrequently met with; (4) that serious or insuperable obstruction to labor may be produced if the fundus and anterior wall of the uterus are imprisoned below the point of attachment between the uterus and abdominal wall.

It is interesting to find that the statistics collected by the writer from American sources correspond in most respects with the foreign statistics. Dr. Alfred Gordon has collected for me all the cases reported in the prominent French and German journals from 1891 to 1895, inclusive (see opposite).

Among the cases operated upon there have been one hundred and seventy-five pregnancies, seventeen abortions (ten per cent), seven premature labors (four per cent), one hundred and thirty-three full-term labors. In eighteen cases labor was complicated as follows: artificial extractions, two; forceps delivery, eight; versions, five; Cesarean sections, three.

There were three deaths from labor, or about two and twenty-five hundredths per cent. It is not unlikely that a certain number of these cases have been counted twice, as appearing first in one journal and then in another, and also as being collected by certain authors in their tabular records besides being counted when originally reported. These sources of error do not obtain in the American statistics.

A careful inquiry into all the facts of the case makes it apparent that the real obstetrical danger to be feared as a result of suspensio uteri is that the fundus and anterior wall of the uterus may become imprisoned below the point of suture to the abdominal wall and thus be prevented from developing in the course of pregnancy. This entails two serious consequences: the first is that the posterior wall of the uterus must afford the necessary room, by its exaggerated development and overstretching, to accommodate the growing ovum; and the second is that the hypertrophied fundus and anterior wall of the uterus, being imprisoned below the point of attachment to the anterior abdominal wall, may constitute a tumor blocking up the inlet of the pelvis. This has occurred not only in two of my own cases, which have been described in detail, but in a number of others reported in the literature. It is important to determine whether this condition is inherent in the operation, or whether it is dependent upon the technique employed in its performance.

In a general way there are three methods of performing this operation.

Kelly's method consists in suturing the uterus, at the junction of the fundus and posterior wall, to the abdominal wall with buried silk sutures. In this technique the sutures which suspend the uterus embrace only the peritoneal coat of the abdominal wall and are introduced superficially through the uterus. The abdominal incision is then closed with a running peritoneal suture, and buried sutures in the aponeurosis, which do not attach the peritoneum to the muscle; and finally the skin is closed with an intracutaneous suture. Great importance is placed upon the delicacy of the attachment of the uterus to the peritoneum only, and upon the fact that the peritoneum is not fixed at the point of abdominal incision. It is claimed that intra-abdominal pressure will make traction upon the point of attachment of the uterus to the abdominal wall, and that within a short time a suspensory ligament will be formed at the point of attachment, giving a freely movable as distinguished from a fixed uterus.

The second technique is that of Olshausen, which consists in the suturing of the uterus to the abdominal wall with buried silkworm-gut sutures. The cornua uteri are sewed to the abdominal wall, the sutures being buried at the aponeurosis. The anterior rather than the posterior face of the fundus is included in the sutures. In this operation the firm attachment of the uterus to the abdominal wall is aimed at.

The third technique is that of Leopold, who uses silk sutures passed through the entire thickness of the abdominal wall, one at each cornu of the uterus and the third in between. Leopold also passes the sutures through the anterior rather than the posterior face of the fundus. To insure firm attachment between the uterus and abdominal wall, the peritoneum of the fundus is scraped off.

Various modifications of these methods have been employed by the operators whose cases are included in the tables, so that it is very difficult to draw any legitimate conclusions from the statistics presented. From the obstetrical standpoint, however, the writer is persuaded that the technique which he has employed heretofore, while eminently satisfactory from the gynecological standpoint, is to be condemned from the obstetrical standpoint. The method consisted in attaching the uterus, at the junction of the fundus and posterior wall, to the abdominal wall with silkworm-gut sutures buried at the level of the

aponeurosis. The abdominal incision was always made low, and the sutures were introduced at the lower angle of the incision. The abdominal incision was then closed with buried silkworm-gut stitches embracing the aponeurosis, muscle, and peritoneum, followed by silkworm-gut stitches through the skin and subcutaneous tissue. The result of this method was a fixed uterus held in ante flexion. When pregnancy occurred under these conditions it is easy to understand why a tumor consisting of the fundus and anterior uterine wall should obstruct the inlet of the pelvis during labor. As the posterior portion of the fundus was firmly attached low down to the anterior abdominal wall, only the posterior and lateral walls of the uterus could develop and ascend into the abdomen to accommodate the growing ovum. The fundus and anterior uterine wall were imprisoned below the point of suture. This undoubted fact is of great importance as showing the relation between technique and difficulties in labor following this operation. Another fact is that, although Kelly has performed about one-fourth of all the American operations reported, in only one case has any serious difficulty in labor followed. In this case suppuration of the abdominal wound occurred, resulting in the very firm and broad attachment of the uterus to the abdominal wall, giving very much the conditions present in my own cases. It is evident that the method adopted by Olshausen, Leopold, Edebohls, and others, of attaching the anterior face of the fundus, or the fundus itself, to the abdominal wall, instead of introducing the sutures at the junction of the fundus and posterior wall, has a certain advantage from the obstetrical standpoint, because, although the methods employed bring about an extensive attachment between the uterus and abdominal wall, it leaves the fundus, as well as the posterior and lateral walls of the uterus, free to develop during pregnancy, and in so much reduces the likelihood of obstruction to labor. A consideration of all these points has induced me to again modify the technique of the operation so as to avoid these objections. The abdominal incision is not made so low as formerly. The lower angle of the incision stops at least an inch and a half above the pubes. Kelly's method of suture is adopted, but the sutures are passed through the anterior instead of the posterior face of the fundus. The peritoneum is then closed with a running suture. The aponeurosis and muscle is closed with interrupted buried silkworm-gut sutures, care being taken not to attach the peritoneum to the muscle. And, finally, the skin and subcutaneous tissue

is closed, as heretofore, with interrupted silkworm-gut sutures. From the obstetrical standpoint this secures a movable uterus, and in the case of pregnancy permits a much more general development of the uterus. Gynecologically it is undoubtedly not so good an operation as Kelly's, because intra-abdominal pressure will not act so favorably in keeping the uterus ante-flexed.

Before concluding this paper it is essential to examine into the status of other operations covering somewhat the same field as suspensio uteri.

Alexander's operation, or shortening the round ligaments, has had a more extensive trial than suspensio uteri, and therefore we are in a good position to estimate the value of this procedure. Those who have had most experience with the operation are unanimous in their advocacy of it in suitable cases—that is, for retrodisplacements or prolapse of the uterus without adhesions. No one with experience denies that the operation is feasible in almost every case and that the results obtained by it are permanent. There is no evidence that the operation interferes in any way with pregnancy or labor, aside from some slight discomfort in the latter months of pregnancy. The only objection which can be urged against the operation is that in a small percentage of cases the ligaments are anomalous and that a certain number of hernias have followed its performance. The skill of the individual operator will reduce these supposed disadvantages to a minimum.

Vaginal fixation after the methods of Dührssen and Mackenrodt has had a much shorter trial, but viewed from the obstetrical standpoint the results have been so disastrous that the operation has been formally abandoned by its originators. Over one-fourth of the pregnancies following this operation have ended in abortions, and the recent literature is burdened with reports of versions, artificial extractions, forceps operations, craniotomies, and Porro operations necessitated by vaginal fixation, so that I feel that, following its originators, we must consider it as condemned by its results and as an unjustifiable operation in the case of women of child-bearing age.

There has recently been an attempt to broaden the field of Alexander's operation by extending it to cases of retrodisplacements of the uterus with adhesions. It is proposed in such cases to break up the adhesions through an incision into the peritoneum, made through the vagina, either behind or in front of the cervix, or to break up the adhesions through an incision

in the abdominal wall and then to shorten the round ligaments. Every proposed operation must be judged by its results, but unless these shall become convincing I prefer suspensio uteri in this class of cases.

I would offer the following conclusions as legitimate deductions from the evidence presented in this paper :

1. Suspensio uteri has been followed by disturbances during pregnancy and difficulties in labor in a small percentage of cases. Serious difficulties in labor depend upon the fixation of the fundus and anterior uterine wall to the abdominal wall, so that only the posterior and lateral walls of the uterus are left free to develop during pregnancy. As a consequence of this condition inertia uteri is present during labor in certain cases, and in a smaller number the imprisoned fundus and anterior uterine wall, hypertrophied by pregnancy, constitute a tumor obstructing the inlet of the pelvis. Obstruction to delivery from this cause may be absolute and necessitate Cesarean section. This unfortunate condition is best avoided by aiming at the production of slight instead of firm adhesions between the uterus and the abdominal wall, and by making the attachment to the uterus on the anterior instead of the posterior face of the fundus.

2. Alexander's operation, or shortening of the round ligaments, is to be preferred to suspensio uteri in cases of uncomplicated retrodisplacements of the uterus. This preference is based upon the ground that the position of the uterus obtained by this operation is more nearly normal than that secured by suspensio uteri, and that the risks to the patient in case of pregnancy are distinctly less.

Retrodisplacements of the uterus complicated by adhesions or by greater or less disease of the uterine appendages should be treated, in my opinion, by abdominal section, properly dealing with the complications, and suspensio uteri. The difficulties which have been met with in pregnancy heretofore will serve as a guide for future work, and the experience already gained should greatly lessen the percentage of difficulties in labor in the future. It is my own intention to apply the principles already dwelt upon in future cases, and to continue to do the operation in all cases in which it becomes necessary to open the abdomen for conditions other than displacement of the uterus, unless further experience shall demonstrate that the dangers of the operation are inherent and not due to technique.

I would offer a suggestion, which I believe to be important,

that all women who become pregnant after having had the operation of suspensio uteri, or ventral fixation should be examined during the seventh and eighth months of pregnancy, to ascertain whether or not the cervix is being dragged up out of the pelvis, and also whether or not the anterior wall of the uterus constitutes a tumor at the brim of the pelvis. In case either of these conditions is made out, labor should be induced at least four weeks before full time. This procedure should greatly minimize the risk of complete obstruction to labor and should make the necessity for Cesarean section extremely rare.

1637 NORTH BROAD STREET.

MODERN METHODS IN THE TREATMENT OF PUERPERAL
INFECTION AND THEIR COMPARATIVE WORTH.¹

BY

BARTON COOKE HIRST, M.D.,
Philadelphia, Pa.

(With chart.)

Serum Therapy of Puerperal Sepsis.—Stimulated by the success of this treatment in diphtheria and in a few other infectious diseases, an effort has been made in quite recent times to procure a serum that will be antagonistic to streptococci and antidotal to the products of their activity.

Richet et Héricourt² suggested, some eight years ago, the use of serum taken from animals "vaccinated" with a septic micro-organism, in order to secure immunity in other animals. Many enthusiastic investigators have recently worked in this same field, especially in France; but it will be conceded, I think, that Marmorek's work has commanded more respect and attention than that of any other single worker, and it will not be unfair, therefore, to judge the merits of the serum therapy of puerperal sepsis by the results achieved with Marmorek's products.

Marmorek³ points out that there are two ways of immunizing animals. One is to take culture media with the microbes

¹ Read before the Section on Gynecology, College of Physicians of Philadelphia, May 21st, 1896.

² Comptes rendus de l'Académie des Sciences, 1888, p. 690.

³ Alexandre Marmorek: "Le Streptocoque et le Serum antistreptococcique." Annales de l'Institut Pasteur, t. ix., July, 1895, p. 593.

destroyed or removed and containing only the toxins of streptococcus activity. The other is to inject the streptococci themselves into the animal which is to be made immune. The latter is much the more reliable method.

Marmorek was able to immunize horses, asses, sheep, and mules by injecting exceedingly virulent streptococci cultures in increasing doses during a period of six to ten months. Taking the serum from the animals at least four weeks after the subsidence of all the symptoms in the reaction following the last inoculation, Marmorek found that one-seven-thousandth part of a guinea-pig's weight in serum was sufficient to protect it against ten times the dose of virulent streptococci which would be fatal in animals unprotected. But he admits that there may be a streptococcus infection so virulent that no antidote is of avail, and also that if the antistreptococcic serum is employed late after the primary infection the progress of the septic inflammation cannot be stayed. Moreover, the antistreptococcic serum has no antagonistic power over the other micro-organisms of puerperal sepsis, so that the quite common cases of mixed infection, in which the colon bacillus, the bacillus fetidus, the bacillus pyocyaneus, and the pyogenic staphylococci are active, may not be benefited in the least by the antistreptococcic serum.

Marmorek reports fifteen cases of streptococcus infection in puerperal women in which the serum was employed. In seven of these there was a pure streptococcus infection. This series had no mortality. In three cases the colon bacillus was associated with the streptococci. All these women died. In five cases pathogenic staphylococci were associated with streptococci. In this number there were two deaths.

Gaulard¹ reports two cases of puerperal fever treated by serum. A rickety woman with a contracted pelvis had a protracted labor. The case was one of face presentation. The perineum was torn to the anus, but sutured at once. One week after delivery the temperature rose to 105° F. and remained at that height for three or four days. Gaulard saw her four days later, when the pulse was 140 and irregular and diarrhea was present. The perineal wound was discharging pus, and on the vagina there were some sloughs. The uterus was curetted, nothing, however, of importance coming away. Subsequently the uterus was packed with iodoform gauze and the perineum resutured. The next day the temperature fell to 102.7° F., but on the

¹ *Presse médicale*, November 30th, 1895. Abstract in *University Medical Magazine*.

second day it rose again and her general condition became serious. At this time ten cubic centimetres of Marmorek's antistreptococcic serum were injected into the abdominal wall. The temperature fell slightly on the following day, and a second injection of two cubic centimetres was given. From this time the temperature fell steadily and the patient made a speedy recovery.

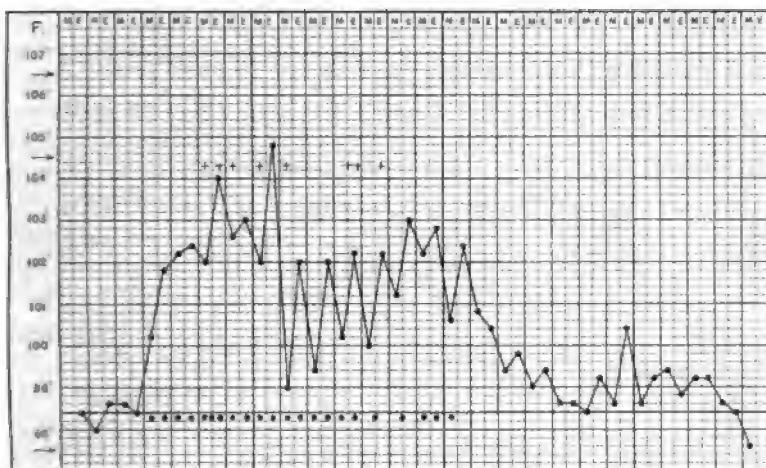
The second case was also a rickety woman. It was her fourth pregnancy. The first labor was natural; in the two others delivery was effected by forceps. The antero-posterior diameter of pelvis was three and a quarter inches. As an unsuccessful attempt had been made outside of the hospital to apply the forceps, a basiotripsy was performed, delivery effected, and a douche of 1:4000 bichloride of mercury given. The temperature rose rapidly, and two days after delivery it had risen to 104° F. The uterus was swabbed out with creosoted glycerin, some putrid fragments coming away, and plugged with iodoform gauze. On the fourth day ten cubic centimetres of antistreptococcic serum were injected, and repeated on the fifth and sixth days. After the third injection the temperature fell to 102.9° F. Another injection was now given, and the temperature fell to 101.5° F., reaching the normal on the eleventh day after delivery. While the temperature was falling she was seized with bilious vomiting and meteorism, the pulse remaining as before, about 120. The vomiting became uncontrollable; she became comatose, and died on the thirteenth day. Gaulard believes that the serum was the cause of the vomiting. He fears that too much serum was injected, for at the autopsy there was no sign of suppuration or of peritonitis. The question of maximum dose of the serum has yet to be determined. The serum does not do away with the necessity for using the curette, but if the germs have already entered the blood it may be employed against them and their toxins.

Quite recently, within the last month, Bar and Tissier¹ have reported further experiences with the treatment of puerperal infection by antistreptococcic serum. They report in a preliminary announcement the treatment of ten cases of streptococcus infection by the antistreptococcic serum. Of this number five died and five recovered. Those that ended in recovery were comparatively light, and one would expect a good result in such cases from the older plans of treatment. They were,

¹ "Faits pour servir à l'Histoire du Traitement de l'Infection puerpérale par le Serum antistreptococcique." *L'Obstétrique*, i., March, 1896. p. 97.

moreover, all treated with intrauterine irrigations, which seems to me to have had more to do with their recovery than the serum injections. Among the fatal cases was one that received the first serum injection three-quarters of an hour after labor, and another in which the patient died apparently from toxemia after the symptoms of the streptococcus infection had subsided (see chart). One cannot avoid the thought, in reading the history of this case, that the serum was the cause of death rather than the original disease. Its clinical features resembled closely those of Gaulard's fatal case.

After an earnest study of this subject—for it is of transcen-



Bar and Tissier's case of serum therapy for streptococcus infection. Woman died from a toxemia. + represents serum injections; • represents intrauterine irrigations.

dent importance to a man engaged in work like mine—it seems to me that our judgment on the serum therapy of streptococcus infection must run as follows, in the light of our present knowledge: It requires a long time and especially virulent inoculations to obtain a serum with antitoxic and germicidal properties. It should be prepared, therefore, with great care and should be obtained from a thoroughly reliable source. There is a possibility that this serum may contain dangerous toxins and that the treatment may be more dangerous than the disease. There is a streptococcic infection so virulent that the antitoxin will be of no avail, no matter how strong it may be. There is an undeterminable time in streptococcic infections

when the serum will be used too late. The antistreptococcic serum has no antagonistic power over other pathogenic microorganisms. It is not easy to determine during life whether the infection is pure or mixed, though the majority of puerperal infections are due to streptococci. Therefore the use of the serum must be more or less empirical. Finally, the clinical results of the serum therapy for puerperal infection have not been as yet at all encouraging.

The Treatment of Septic Infection by the Artificial Production of a Hyperleucocytosis.—A large and influential school of pathologists regard phagocytosis as the agency by which an infectious disease is spontaneously cured. It is logical, therefore, in those holding this belief, to attempt the treatment of septic infection by stimulating the production of white blood corpuscles that shall serve as phagocytes. There are several agents administered internally that have leucotaxic powers, such as pilocarpin and nuclein. The former, however, is not advisable in sepsis, on account of its depressing action.

Hofbauer,¹ from Schauta's clinic in Vienna, reports the results of employing Horbaczewski's nuclein in seven cases of puerperal infection. The cures effected in some of these cases certainly warrant a further trial of the method. To my mind this plan of treatment gives greater promise of practical results than does the serum therapy.

1821 SPRUCE STREET.

PREVENTION OF THIRST FOLLOWING ABDOMINAL OPERATIONS.²

BY

J. G. CLARK, M.D.,

Resident Gynecologist in the Johns Hopkins Hospital.

(With chart.)

OF the minor complications following abdominal operations, thirst is one of the most common and in some cases is exceedingly distressing. I can recall numerous instances where patients have resorted to every means possible to obtain water.

¹ Centralblatt für Gynäkologie, No. 17, 1896, p. 441.

² Read before the ninety-eighth annual meeting of the Medical and Chirurgical Faculty of Maryland, April 28th to May 1st, 1896.

One patient, a negress, in the wards of the Johns Hopkins Hospital, after an exceedingly grave operation, got out of bed, while the nurse was absent a few moments from the room, and crawled to a water cooler some distance away.

The rule usually followed by surgeons in abdominal-section cases is to withhold liquids for twenty-four hours until the patient is free from nausea and vomiting, after which water is given in small quantities.

The large amount of waste products which is thrown off through the various excretory channels following an abdominal operation causes intense thirst, especially in those cases where there is no compensatory ingestion of liquids to offset the depletion caused by the dehydration of the tissues from the evaporation of the ether in the lungs and its elimination by the kidneys and other excretory organs. The mere administration of ether without operation is often followed by intense thirst. Add to this factor a prolonged operation, with more or less loss of blood, and we have three potent co-operating causes for the production of this complication.

Numerous plans have been suggested to prevent thirst, among the latest one by Dr. Humiston, of Cleveland. His plan is to place the patient on a greatly increased water diet for three days before operation, thus hoping to store up sufficient residual water to tide the patient over the first twenty-four hours after operation.

This plan is no doubt of service in cases where it is possible to put it into effect, but in the usual hospital practice and in many operations performed in private houses it is not feasible, because in many instances the case is an emergency one requiring operation within twenty-four hours after being seen by the surgeon.

This is especially true in gunshot wounds of the abdomen, appendicitis, ectopic pregnancy, etc., and it is in these cases that thirst is the most intense, and vomiting, which prevents the ingestion of water, the most frequent.

It has been the practice for many years in medical and surgical cases to administer water in small quantities by the rectum where, for any reason, it was impossible for the patient to take fluid by the mouth; but, so far as I know, the routine injection of saline solution (0.6 per cent) as a systematic procedure for the control of thirst after abdominal operations has not been used.

The employment of fluid enemata, the injection of salt solu-

tion into the subcutaneous tissues and into the peritoneal cavity, is resorted to where, on account of some disease, such as cholera, large quantities of fluid are discharged by the bowels, kidneys, and sweat glands.

For the last two years it has been a part of the concluding technique of every abdominal operation performed in the Gynecological Department of the Johns Hopkins Hospital to inject one litre of normal salt solution into the lower bowel, and the result has been so very satisfactory that we now propose to adopt it for all operations, even of minor degree.

In order that the patient may retain the enema *she must yet be under the anesthetic when it is given*, otherwise the bowel will not tolerate such a large quantity of liquid. For this reason it is impossible to give liquids in sufficient quantities in the conscious subject to be of any great service in assuaging the thirst.

At the conclusion of the operation, before the abdominal dressings are applied, the patient is elevated to the moderately high Trendelenburg posture, a stiff rectal tube is inserted well up into the sigmoid flexure, and the fluid slowly poured into a glass funnel, which is held three or four feet above the level of the patient's buttocks.

In this posture the solution gravitates downward into the sigmoid flexure and the descending colon, and is very rarely expelled, even as a result of the most violent attacks of retching and vomiting during the recovery from anesthesia.

I have reviewed the special charts of one hundred abdominal-section cases which have not had, and one hundred cases which have had, the saline enemata, and am able to report the most gratifying results, not only in the alleviation of thirst, but also in the reduction to a minimum of vesical irritability, which is so common in operative cases.

One or two months after the adoption of this plan the head nurses in the gynecological wards began to report the most remarkable improvement in the intense thirst usually experienced by patients after abdominal section.

Up to this time the nurses had not been informed of the means being employed to prevent this complication, as we desired to obtain an unsolicited and unbiassed report from them. From this time on, however, they were instructed to make the most critical observations concerning the presence or absence of thirst, and in the one hundred charts, which I have taken at random from our history files, there is very rarely any note other than that the patient passed her first twenty-four hours without even asking for water.

Another most conclusive evidence of the beneficial effect of these enemata is shown by the increase in the urinary excretion. Reference at this point to Dr. Russell's paper on "Urinary Analysis in Gynecology," published in the *Johns Hopkins Hospital Reports*, 1894, is of especial interest, as the urinary excretion of one hundred abdominal cases under the new regimen shows a most remarkable increase over that noted by Dr. Russell.

In Dr. Russell's paper he attributed the frequency of vesical irritability in post-operative cases to the retention of small quantities of highly concentrated urine in the bladder, which possessed more than the normal amount of organic salts with greatly decreased watery constituent.

This hypothesis is unquestionably a correct one, as vesical irritability is comparatively rare in the cases of the last year. Catheterization is much less frequently required, and consequently the occurrence of post-operative cystitis is greatly decreased.

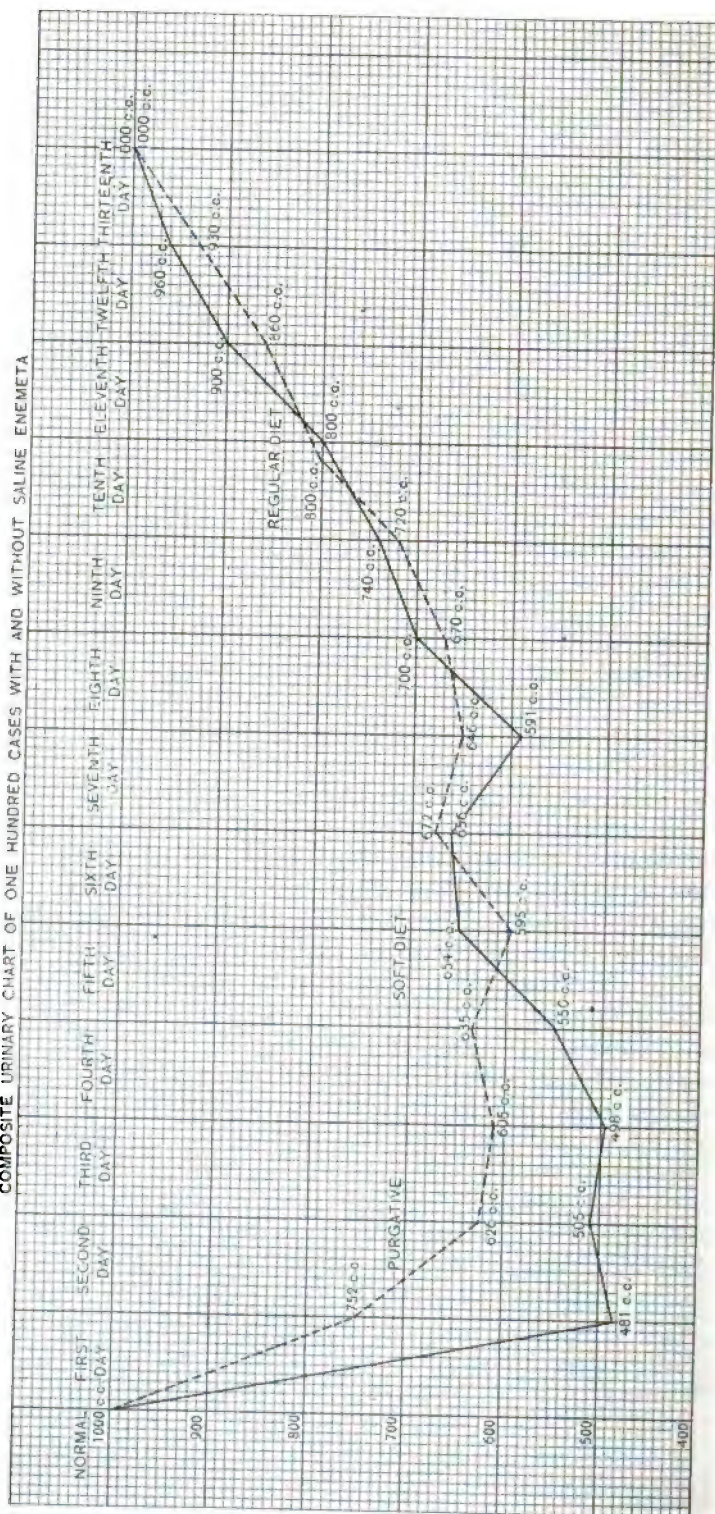
The natural result of almost doubling the watery constituent of the urine is to decrease the specific gravity. The specific gravity of cases in which the enemata are not given ranges between 1025 and 1030, while those with it show a reduction to an average of 1021.

The physical characteristics of the urine in the two series are also markedly different. As would be expected, the urine with high specific gravity is of a reddish-brown color, at times almost suggesting hemoglobinuria, and after standing deposits a heavy stratum of reddish sediment consisting largely of the phosphatic salts and urates. The urine of the cases in which the saline solution is given usually presents a normal color, and where more than 900 cubic centimetres are voided in the first twenty-four hours it may even have the clear, limpid appearance of a urine deficient in solid constituents.

The average daily quantity of urine excreted for the first seven days after operation, in the two series of cases, is as follows :

With Saline Enemata.				Without Saline Enemata.			
First day,	752	cubic centimetres.		First day,	481	cubic centimetres.	
Second "	626	"	"	Second "	505	"	"
Third "	605	"	"	Third "	498	"	"
Fourth "	635	"	"	Fourth "	550	"	"
Fifth "	595	"	"	Fifth "	654	"	"
Sixth "	672	"	"	Sixth "	656	"	"
Seventh "	646	"	"	Seventh "	591	"	"

COMPOSITE URINARY CHART OF ONE HUNDRED CASES WITH AND WITHOUT SALINE ENEMETA



The normal daily excretion of urine in gynecological cases when they are admitted into the wards is below the normal (1,200 to 1,500 cubic centimetres), rarely being higher than 1,100 cubic centimetres.

The average quantity in fifty cases which I have had carefully measured is 1,000 cubic centimetres. In constructing the accompanying composite urinary chart I have assumed this quantity to be the normal. This chart brings out a number of interesting points. In following the two lines as they descend from the basal line, the wide difference in the amount excreted by the cases with and without the enemata is seen at a glance.

The first series of one hundred cases shows an average of 752 cubic centimetres at the end of the first twenty-four hours, while the second shows but 481 cubic centimetres.

The solid line (cases without enemata) drops to its lowest point on the first day, and for three days does not rise much above the point, while the broken line (cases with enemata) shows a greater excretion the first day than for seven subsequent days. It is not until the end of the fifth day that the excretion in the two series of cases is of equal amount.

This chart not only furnishes a graphic illustration of the comparative progress of the two series of cases with regard to the urinary excretion, but in other symptoms as well. It is frequently urged as an objection to the administration of morphine in post-operative cases that it "locks up the secretions" and thus retards convalescence. Looking at this question from the standpoint which this chart presents, it would appear to be a lack of sufficient water supplied to meet the deficit caused by the increased metabolism following operation, and not to the slight inhibition of the secretory function of the various glands from the effects of the morphine. In the treatment of cases immediately after serious operations performed in the Gynecological Department of the Johns Hopkins Hospital, we do not hesitate to use small doses of morphine, repeated if necessary, if the patient is in great pain, and in no case has there been a perceptible diminution in the urinary excretion under that usually observed in cases which do not have this drug.

A further study of this composite chart reveals other interesting points. In both series of cases the least amount of urine is excreted during the third day (605 cubic centimetres in one, 498 cubic centimetres in the other), which is readily accounted for by the fact that it is the routine practice to administer a saline purgative on the evening of the second day, which

EFFECTS OF NORMAL SALINE

CASES IN WHICH SALINE ENEMATA WERE NOT USED.

No.	Name.	Gynecological number.	Disease.	First twenty-four hours.	Second twenty-four hours.	Third twenty-four hours.	Fourth twenty-four hours.	Fifth twenty-four hours.	Sixth twenty-four hours.	Seventh twenty-four hours.
1	M. C.	1333	Ventral hernia; hydrosalpinx.....	230	680	400	450	880	700	600
2	L. S.	1335	Retroflexio uteri.....	520	580	680	800	750	1210	1000
3	H. H.	1807	Ventral hernia.....	440	490	580	780	670	650	810
4	F. M.	1819	Myoma uteri.....	600	410	500	430	330	430	400
5	K. Z.	1822	Papillomatous ovarian cyst.....	325	300	325	425	350	400	400
6	G. B.	1828	Ventral hernia.....	410	615	1080	470	600	800	650
7	L. C.	1880	Retroflexio uteri.....	310	380	240	310	510	500	600
8	A. S.	1832	Myoma uteri.....	628	810	660	490	700	840	400
9	D. McK.	1838	Pyosalpinx.....	470	420	380	570	750	850	600
10	M. M. M.	1834	Hematoma ovarii.....	360	330	290	490	660	875	680
11	E. W.	1840	Hydrosalpinx.....	305	560	550	640	630	810	620
12	W. W.	1846	Hydrosalpinx.....	600	550	520	660	530	730	700
13	E. D.	1855	Papillary cyst.....	390	315	455	730	640	700	600
14	T. L.	1859	Pyosalpinx.....	420	490	620	400	590	400	540
15	E. S.	1723	Carcinoma.....	470	480	640	630	645	710	900
16	B. C.	1896	Myoma uteri.....	360	310	520	420	470	630	700
17	G. B.	1816	Ovarian abscess.....	420	580	350	400	590	630	350
18	B. W.	2016	Pelvic abscess.....	390	360	430	380	530	630	550
19	A. R.	2042	Fibroma ovarii.....	600	430	540	550	590	640	700
20	K. H.	2045	Tuberculous peritonitis.....	365	540	495	630	915	680	500
21	C. K.	1995	Retroflexio uteri.....	600	585	415	320	700	640	600
22	M. W.	1990	Peritonitis.....	450	490	630	970	900	650	700
23	K. S.	1935	Salpingitis and perioöphoritis.....	390	540	350	410	400	830	780
24	G. G.	1938	Salpingitis and perioöphoritis.....	390	460	400	330	530	610	535
25	C. B.	1930	Pyosalpinx.....	400	390	310	420	500	600	600
26	K. H.	1806	Salpingitis and perioöphoritis.....	430	640	530	730	670	490	700
27	H. L.	1812	Myoma uteri; parovarian cyst.....	640	870	730	410	660	1480	1300
28	M. L.	1828	Parovarian cyst.....	530	530	330	430	670	730	500
29	E. P.	1829	Myoma uteri.....	300	330	630	640	690	840	700
30	L. B.	1832	Ovarian abscess.....	550	400	550	350	540	540	650
31	E. S.	1508	Ventral hernia.....	370	540	450	610	570	610	650
32	H. B.	1519	Sarcoma ovarii.....	330	700	700	830	1000	950	875
33	C. J.	1527	Hydrosalpinx.....	560	360	310	590	670	710	730
34	L. B.	1528	Salpingitis and perioöphoritis.....	1020	750	980	1300	1100	1000	1020
35	K. G.	1530	Pyosalpinx.....	730	350	400	330	400	400	530
36	M. R.	1532	Pelvic abscess.....	490	630	400	530	500	700	700
37	H. M.	1541	Carcinoma peritonei.....	510	740	500	500	530	430	360
38	S. C.	1540	Myoma uteri.....	540	440	450	500	630	980	820
39	G. H.	1542	Salpingitis and perioöphoritis.....	900	510	440	400	500	500	650
40	B. P.	1544	Peritonitis.....	360	530	675	720	590	700	720
41	C. P.	1556	Carcinoma ovarii.....	450	400	360	330	800	390	840
42	L. R.	1560	Salpingitis and perioöphoritis.....	370	630	460	630	1100	800	875
43	L. R.	1570	Pericecal abscess.....	500	480	670	750	680	700	650
44	E. K.	1573	Salpingitis and perioöphoritis.....	400	350	450	300	500	400	675
45	M. C.	1579	Myoma uteri.....	330	600	570	920	750	1300	1100
46	K. M.	1582	Retroflexio uteri.....	600	450	330	490	900	550	600
47	B. M.	1585	Retroflexio uteri.....	400	280	440	730	1080	500	875
48	L. R.	1597	Salpingitis and perioöphoritis.....	750	740	750	700	960	1000	1100
49	E. C.	1645	Ovarian abscess.....	550	500	430	510	400	450	550
50	A. M.	1635	Myoma.....	390	380	690	260	500	890	900

usually acts on the third day. The diminution is therefore a normal physiological one, due to the hydragogue action of the purgative.

Soft diet is begun on the fifth and sixth days, and as a result there is another drop in the two lines, as the patient then begins to take more of soft than of liquid diet.

At the end of the fifth day the excretion in both series of cases is equal, and from this time the two lines travel together

ENEMATA ON URINARY EXCRETION.

CASES IN WHICH SALINE ENEMATA WERE USED.

No.	Name.	Gynecological number.	Disease.	First twenty-four hours.	Second twenty-four hours.	Third twenty-four hours.	Fourth twenty-four hours.	Fifth twenty-four hours.	Sixth twenty-four hours.	Seventh twenty-four hours.
1	E. N. P.	4080	Myoma uteri.	1800	680	680	680	525	615	815
2	A. D.	3864	Myoma uteri.	880	580	875	440	540	380	800
3	E. W.	3843	Myoma uteri.	500	550	465	450	540	1010	940
4	N. E.	3050	Myoma uteri.	980	680	500	710	680	850	810
5	M. W.	3977	Myoma uteri.	700	570	440	780	370	875	690
6	M. C.	3867	Myoma uteri.	780	600	490	580	710	1010	1140
7	T. S.	3888	Myoma uteri.	580	380	300	950	580	760	700
8	S. C.	3918	Myoma uteri.	720	520	310	840	540	680	480
9	J. H.	3775	Pyosalpinx.	490	285	385	280	360	480	535
10	V. S.	3935	Hydrosalpinx.	900	530	380	475	490	460	500
11	M. B.	3882	Myoma uteri.	1840	1820	900	680	850	810	800
12	H. J.	3575	Dermoid cyst.	610	600	580	740	440	460	480
13	M. A.	3484	Myoma uteri.	715	400	390	435	410	610	580
14	J. P.	3462	Carcinoma uteri.	680	680	715	580	660	1500	685
15	L. P.	3976	Inguinal hernia.	1110	745	710	380	475	550	700
16	C. J.	3999	Myoma uteri.	980	690	985	495	440	950	850
17	E. R.	3904	Retroflexio uteri.	1050	480	680	550	780	780	1180
18	L. N.	3991	Myoma uteri.	580	700	460	800	900	540	600
19	M. B.	3948	Retroflexio uteri.	450	590	710	750	650	790	500
20	A. E. S.	3998	Retroflexio uteri.	720	1180	1080	920	790	880	550
21	A. M.	3943	Myoma uteri.	780	660	560	480	840	690	770
22	E. H.	4021	Gall stones.	680	800	390	730	740	780	680
23	C. F.	4000	Pyosalpinx.	980	370	600	390	550	650	600
24	T. McN.	4100	Cystic ovary.	850	850	910	380	480	770	710
25	M. S.	4055	Myoma uteri.	620	400	1160	500	950	680	645
26	M. T. A.	4084	Retroflexio uteri.	600	580	480	580	500	680	570
27	N. J. L.	4108	Retroflexio uteri.	500	650	480	680	480	400	500
28	A. D. S.	4068	Retroflexio uteri.	570	600	430	635	840	710	700
29	J. P. R.	4088	Salpingitis and periophoritis.	780	605	400	680	600	770	980
30	L. H. K.	4068	Suppurating myoma.	550	315	480	690	540	455	480
31	J. B.	4065	Retroflexio uteri.	960	655	880	940	600	545	685
32	E. S.	4154	Salpingitis and periophoritis.	370	920	940	650	250	600	300
33	L. Y.	4153	Tubo-ovarian cyst.	550	570	580	400	400	610	400
34	M. R.	4128	Ovarian cyst.	780	670	450	480	770	600	650
35	C. W.	4145	Ovarian cyst.	710	410	770	850	400	710	705
36	M. A. B.	4149	Hydrosalpinx.	680	690	670	1020	700	650	700
37	E. P.	4070	Carcinoma uteri.	790	420	485	750	490	380	300
38	M. H.	4076	Cystoma ovarii.	1080	1180	980	850	740	860	580
39	L. O.	4064	Appendicitis and peritonitis.	810	765	665	740	740	540	690
40	K. S.	4058	Hydrosalpinx.	540	640	1160	780	680	880	450
41	L. D.	4040	Retroflexio uteri.	670	680	990	640	450	420	580
42	E. B.	4018	Purulent peritonitis.	550	180	350	755	680	650	670
43	E. D.	4022	Myoma uteri.	1260	680	880	640	680	800	855
44	K. P.	4040	Inguinal hernia.	600	585	505	780	455	780	600
45	L. W.	4086	Retroflexio uteri.	680	570	1060	780	520	730	710
46	A. C.	3900	Cystoma ovarii.	560	380	220	475	490	600	380
47	M. W.	3906	Retroflexio uteri.	750	550	680	530	760	660	550
48	M. M.	3909	Ovarian cyst.	1400	900	660	960	700	800	680
49	C. C.	3912	Ovarian cyst.	550	480	480	650	605	600	700
50	A. H.	3901	Retroflexio uteri.	705	560	680	540	570	500	550

until they again reach the normal base line on the twelfth to thirteenth day.

There appears to be a further explanation for the greater excretion of urine in the cases which have the saline enemata than that it is merely due to an increase in the amount of water taken into the system.

The nausea and vomiting following anesthesia usually disappears by the end of the first twenty-four hours, after which

the imbibition of water has not been restricted in either series.

Notwithstanding the fact that in both series of cases about the same quantity of water is taken by the mouth, the excretion in one remains very low for three days, at no time being above 505 cubic centimetres, while the other shows not less than 600 cubic centimetres, or over 100 cubic centimetres more urine passed daily by the patients who have had the enemata. From this observation it would appear that the persistent renal torpidity is due to the irritant or toxic effects of the greatly concentrated urine, and by supplying the body with a litre of salt solution this partial suppression is to a great extent prevented, and the kidney at once resumes its normal function as soon as the patient begins to take water.

The accompanying table of two series of fifty cases, with the record of the daily excretion in each individual case, emphasizes the fact which the composite chart brings out.

In thirty-five of the fifty cases with the enemata the excretion during the first twenty-four hours was greater than it was on the seventh day after operation, while in forty cases without enemata the excretion was less during the first day than during the seventh, the figures in the former being almost exactly reversed in the latter. The following table, taken from these two series of cases, also shows the same result:

Urine excreted.		With enemata.	Without enemata.
		Cases.	Cases.
1,000 cubic centimetres or over	.....	7	1
900 " " " "	.....	5	1
800 " " " "	.....	3	0
700 " " " "	.....	12	2
600 " " " "	.....	9	7
500 " " " "	.....	11	8
400 " " " "	.....	2	14
300 " " " "	.....	1	15
200 " " " "	.....	0	2
100 " " " "	.....	0	0
		Total, 50	50

The entire relief from the intense thirst following abdominal operations, in a great majority of cases, by the simple injection of the saline enemata, is a much stronger proof of the efficiency of this means than the mere citation of statistics. Since the adoption of this plan we feel that thirst can almost entirely be eliminated as a post-operative complication.

My thanks are due Dr. Kelly for his encouragement and permission to put into effect and to study the plan above reported.

A METHOD OF PREVENTING THIRST AFTER CELIOTOMY,
WITH A STUDY OF THE URINE.¹

BY

WILLIAM H. HUMISTON, M.D.,

Associate Professor of Gynecology in the Medical Department of Western Reserve
University; Gynecologist to St. Vincent's Charity Hospital; Consulting
Gynecologist to City Hospital, etc.,
Cleveland, Ohio.

IN the Transactions of the Section on Gynecology, College of Physicians of Philadelphia, as published in the February, 1896, number of THE AMERICAN JOURNAL OF OBSTETRICS, occurs an interesting discussion by well-known surgeons of that city in regard to the quantity of urine passed after abdominal section.

Dr. Baldy said : " I have noticed *for years* that the patients will pass, after abdominal section, as little as six ounces in twenty-four hours, very frequently eight to ten, where they passed thirty to forty before."

Dr. Noble is quoted thus: "About two years ago I tabulated every case. My experience is that twenty ounces in the first twenty-four hours after abdominal section *is a large quantity*."

Dr. Howard Kelly, in discussing this subject before the American Gynecological Society, said, after continuous observations for the last three years of the urine following celiotomy, he had found that it required a period of ten days in the average case for the quantity of urine to become normal, beginning with a diminution of from one-third to one-half on the first day and gradually increasing.

The method of preventing thirst following celiotomy that I first published in July, 1895, in THE AMERICAN JOURNAL OF OBSTETRICS, has continued to give the same uniform results that the twelve cases which were then reported gave promise.

For the past two years the following has been my method—adopted because it was so efficient in overcoming the intense and distressing thirst which follows celiotomy, and continued because the thirst *is allayed* and the quantity of urine almost quadruply increased, together with a remarkable increase in the total amount of urinary solids excreted.

The method: "The patient should have the usual preparation

¹ Read before the Ohio State Medical Society, at Columbus, May 29th, 1896.

for celiotomy—i.e., diet, daily baths, cathartics, etc. For three days prior to operation order the patient to drink one pint of hot water an hour before each meal and on retiring, thus drinking two quarts of water each twenty-four hours, the last pint to be taken three hours before the time set for operating. Do not omit to give the water the day previous to the operation, while the patient is restricted to a limited amount of liquid nourishment and the bowels are being unloaded. We thus restore to the system the large loss of fluid occasioned by the free catharsis, and we have the great satisfaction of seeing our patient pass through the trying ordeal of the first thirty-six hours after the operation in comparative comfort, with no thirst, a moist tongue, and an active renal function, represented by an excretion of from twenty-eight to fifty fluidounces of urine during the first twenty-four hours, catheterization being seldom necessary."

The convalescence has been rapid and entirely free from the restlessness that is produced by the dry tongue and extreme thirst in those cases where this method has not been used. The pulse has been full, regular, and strong, which is in keeping with the active renal function noted. In septic cases that come for operation, the weak heart action and the diminished renal secretion are prominent symptoms, and, if a crisis is not imminent, I delay operation for a few days, giving time for the hot-water method to be used. Within a short time I have had twenty-four consecutive celiotomies, with one death from heart clot occurring in thin and dilatable walls. I refer to these cases merely to demonstrate the severe test that I have given this hot-water method.

I beg leave to briefly report the results obtained in two cases.

Mrs. D. Diagnosis, ruptured ectopic pregnancy with general peritonitis and sepsis. For eighteen hours previous to entrance to my hospital the patient passed but six ounces of urine. Was admitted September 23d. 1896, at 7:30 P.M. Preparation of patient began immediately and continued through the night. Patient passed four ounces during the night, this containing fifty per cent albumin, compound granular casts, degenerated kidney epithelium, and general débris. Chloroform was administered for one hour and fifteen minutes; heart stimulants were freely given during this time. The operation was extremely difficult, as old dense adhesions, together with more recent ones, were encountered. There was also a large intraligamentous cyst of opposite side, which was enucleated. Two

quarts of normal salt solution were injected into the colon while patient was still in the Trendelenburg position. Patient left the table in an extremely low condition. However, in the first twenty-four hours the patient passed twenty-eight ounces of urine with seven hundred and seventy grains of total solids—the albumin being very much diminished; in the second twenty-four hours, twenty-four ounces of urine with six hundred and seven grains solids, with only a faint trace of albumin; on the seventh day, forty-eight ounces and five hundred and twenty-eight grains solids, with still a trace of albumin, but no casts found after four hours of sedimentation. That is, this patient was operated upon under most unfavorable conditions, with suppression of urine, general toxemia, and without even ordinary preparation for an operation ; and yet, by the administration of large quantities of water by stomach and bowel during the twelve hours preceding the operation, and by the addition of two quarts of salt solution while on the table, the kidneys were made to excrete an average of twenty-six ounces of urine with six hundred and eighty nine grains of total solids during the first two days, and the patient's life was saved.

Mrs. D. Diagnosis, a large and rapidly growing ovarian cyst, general sepsis, acute septic parenchymatous nephritis. Three weeks prior to admission to my hospital I opened, through the vagina, a large pyosalpinx, preparatory to the removal later of the then large ovarian cyst by celiotomy. The patient's general condition failed to improve, however, and there were evidences of absorption of septic matter still continuing ; and, further, the ovarian cyst very rapidly increased in size. For ten days previous to admission the kidneys were excreting daily from eight to fifteen ounces of urine with a low specific gravity, in spite of the rather vigorous measures adopted for increasing the amount. During the week allowed for preparation of the patient, under the administration of strychnia and potassium bitartrate and copious and frequent draughts of hot water, the kidneys more than doubled the largest quantity passed in the period of ten days prior to admittance, together with the total solids. Upon opening the belly the adhesions were found to be general and very dense; the bleeding, too, was quite free. The wall of the cyst was stitched to the abdominal parietes in the lower angle of the incision, and the cyst contents of one hundred and ten ounces of thick pus (pea soup) were evacuated by trocar and canula. The cyst cavity was carefully flushed and packed with iodoform gauze. This patient

passed, during the first two days succeeding the operation, an average of sixteen ounces with three hundred and eighty-seven grains of total solids. On the fifth day fifty ounces were voided with six hundred and five grains of solids. The patient made an uneventful and rapid recovery, but the kidneys had not fully regained their tone in the four weeks she remained in my hospital.

These two cases, together with the average of the last twenty-four cases in which more careful and full tabulation has been kept, are sufficient to show the value of my water method.

The estimation of the total solids is according to Haines' modification of Heuser's method, multiplying the quantity in ounces of urine passed in twenty-four hours by the last two figures of the specific gravity, and the result by the coefficient one and one-tenth. The table of total solids for the normal case according to body weight is by Etheridge.

The average of total urinary solids voided during the first twenty-four hours succeeding admission to "The Home" was four hundred and forty-seven grains; the average total quantity of urine was twenty nine ounces. During the day preceding the operation thirty ounces of urine, containing four hundred and ninety-one grains of total solids, were excreted.

The average quantity of urine voided during the first twenty-four hours following operation was thirty-one and a half ounces, and the average total solids were nine hundred and seventy-two grains; in the second twenty-four hours twenty-five ounces of urine, containing six hundred and eighty grains of total solids, were passed. The average total quantity of urine voided during the first twenty-four hours following admission to the hospital is above that of the ordinary gynecologic case, I believe.

Upon the first consultation I always advise the use of *at least* an ordinary amount of water, together with the administration of the usual diuretics, especially the potash and soda salts, with occasionally digitalis. This accounts, in all but two cases of the twenty-four, for the large amount excreted.

I wish particularly to call your attention to the enormous increase in the amount of the total solids eliminated during the first twenty-four hours after the operation over that of the preceding twenty-four hours—from four hundred and ninety-one grains to eight hundred and seventy-one grains, *showing a gain of almost eighty per cent.*

Just a few days ago I succeeded in securing the twenty-four

hours' urine from six healthy females, which I had examined with the following results: Their average weight being one hundred and fifteen pounds, the normal total solids (according to Etheridge) should be nine hundred and forty-five grains; the average quantity of urine passed was thirty-seven ounces, containing an average of total solids amounting to six hundred and seventy-seven grains. The comparison of the results between the operative cases and healthy subjects is interesting, showing how nearly my patients approach at least the normal quantity, and how they so far surpass the elimination of total solids immediately following abdominal section.

There is another point to which I wish to call attention, if you will permit me to digress, and that is the value of lavage in persistent vomiting after celiotomy. The results were so striking and immediate in two desperate cases, after failure to control vomiting by every known method, that hereafter I shall adopt and advise washing of the stomach thoroughly an hour before operation in cases that have been troubled with gastric irritability for a length of time

Number of case.	Name.	Weight of patient.	Urine passed in twenty-four hours upon entrance.		Urine passed for twenty-four hours preceding operation.		Normal quantity of total solids which each patient should pass according to her weight.	Quantity of urine passed during first twenty-four hours.		Total solids passed during first twenty-four hours after celiotomy.		Quantity of urine passed second twenty-four hours.		Total solids passed during second twenty-four hours.		Average quantity of urine passed during first two days.		Average quantity of total solids passed during first two days after celiotomy.	
		Lbs.	Ozs.	Grs.	Ozs.	Grs.	Grs.	Ozs.	Grs.	Ozs.	Grs.	Ozs.	Grs.	Ozs.	Grs.	Ozs.	Grs.	Ozs.	Grs.
1	Mrs. C. . .	85	.	.	.	.	752	26	638	28	607	24	620			24	620		
2	Mrs. K. . .	100	.	.	.	.	854	35	1001	17	561	26	781			26	781		
3	Mrs. M. . .	140	.	.	.	.	1078	58	1288	32	915	42 $\frac{1}{2}$	1099			42 $\frac{1}{2}$	1099		
4	Mrs. F. . .	90	.	.	.	.	799	28	688	18	574	20 $\frac{1}{2}$	628			20 $\frac{1}{2}$	628		
5	Mrs. D. . .	154	.	.	.	.	1150	33	770	24	607	26	649			26	649		
6	Mrs. M. . .	120	.	.	.	.	974	32	915	26	858	29	887			29	887		
7	Mrs. H. . .	105	48	422	18	337	854	33	944	26	744	29 $\frac{1}{2}$	844			29 $\frac{1}{2}$	844		
8	Mrs. K. . .	140	30	896	32	598	1078	28	862	26	858	28	862			28	862		
9	Mrs. S. . .	110	34	493	35	501	916	34 $\frac{1}{2}$	1025	24	845	29	935			29	935		
10	Mrs. R. . .	120	36	752	39	686	974	31 $\frac{1}{2}$	823	29	688	30	680			30	680		
11	Mrs. W. . .	100	.	.	30	462	854	25	605	23	581	24	568			24	568		
12	Mrs. S. . .	165	.	.	42	482	1217	25	880	25	770	30	825			30	825		
13	Mrs. G. . .	135	15	281	24	475	1063	16 $\frac{1}{2}$	399	15 $\frac{1}{2}$	375	16	377			16	377		
14	Mrs. B. . .	105	32	387	32	634	885	37	895	40	840	34 $\frac{1}{2}$	888			34 $\frac{1}{2}$	888		
15	Mrs. C. . .	100	38	460	39	472	854	32	880	40	704	36	732			36	732		
16	Mrs. B. . .	140	.	.	26	429	1078	48	950	28	616	33	733			33	733		
17	Mrs. C. . .	120	32	634	56	952	974	28 $\frac{1}{2}$	846	18	559	23 $\frac{1}{2}$	702			23 $\frac{1}{2}$	702		
18	Mrs. W. . .	130	14 $\frac{1}{2}$	478	24	686	1028	34	1074	19	554	21 $\frac{1}{2}$	619			21 $\frac{1}{2}$	619		
19	Mrs. B. . .	120	25	605	30	550	974	33	944	20	616	21 $\frac{1}{2}$	730			21 $\frac{1}{2}$	730		
20	Mrs. G. . .	150	26	494	15	479	1150	32	1056	26	743	24 $\frac{1}{2}$	900			24 $\frac{1}{2}$	900		
21	Mrs. H. . .	95	38	290	38	290	821	33 $\frac{1}{2}$	847	30	528	27	695			27	695		
22	Mrs. L. . .	110	11	350	24	581	916	39 $\frac{1}{2}$	974	22	678	26	688			26	688		
23	Mrs. L. . .	160	48	686	30	660	1198	32	950	28	862	30	906			30	906		
24	Mrs. A. . .	110	19	564	31	613	916	26 $\frac{1}{2}$	758	27	594	27	626			27	626		
Average . . .		121	29	477	30	401	972	31 $\frac{1}{2}$	871	25	680	27	771						

INTESTINAL BACTERIA AS A SOURCE OF INFECTION
COMPLICATING OBSTETRIC OPERATIONS:
WITH REPORT OF CASES.¹

BY

EDWARD P. DAVIS, A.M., M.D.,

Professor of Obstetrics and Diseases of Infancy, Philadelphia Polyclinic; Clinical
Professor of Obstetrics, Jefferson Medical College; Attending Obstetrician,
Philadelphia Hospital, etc.,

AND

DAVID BEVAN, M.D.,

Philadelphia.

(With plate.)

OBSTETRIC surgeons are sufficiently familiar with the extraneous causes of infection to guard against them successfully in the great majority of cases. It is comparatively rare for a patient under favorable conditions to become infected during or after a properly performed obstetric operation. This is especially the case in major obstetric surgery, where symphyseotomy and Cesarean section give satisfactory results under antiseptic precautions. When, in spite of such care, an unfavorable result follows delivery by abdominal section, the failure must be ascribed to a cause within the body of the patient beyond the control of the operator, or to some error in his own work or that of his assistants. I have had the opportunity, since the last meeting of this Society, to study two cases, each of which required an obstetric operation for delivery, and in each of which a source of fatal infection was subsequently found within the body of the patient herself. In each of these cases the intestinal tract was the seat of the infection. An intelligent study of these cases would have been impossible without the pathological work of my friend Dr. Bevan, whose notes and illustration are presented together with my own report of these patients.

CASE I. was a colored girl, aged 21 years, of uncertain parentage and of uncertain antecedents. She had been at one time an occupant of a reformatory institution and later a domestic. Her family history was that her father was living and in good

¹ Read before the American Gynecological Society, May 28th, 1896.

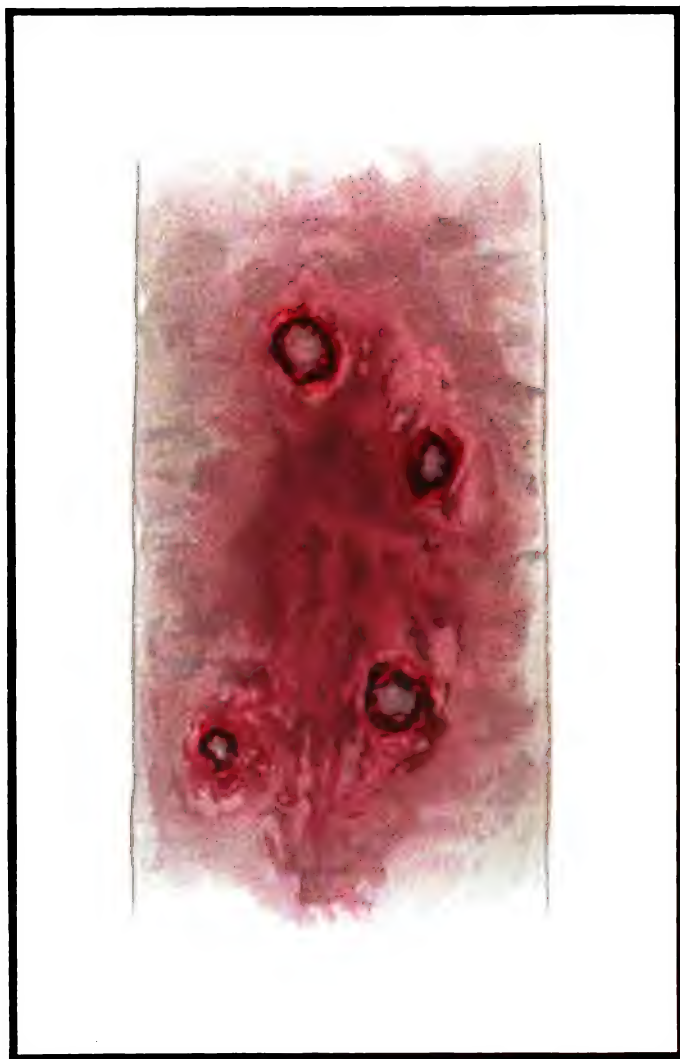
health, while her mother died in childbirth. Further history of her family was uncertain. When 2 years old she fell upon a stairway and is said to have fractured her right hip. She walked with a limp and had appreciable shortening, although examination of the joint and of the pelvis detected nothing anatomically wrong at the time of confinement. She was said to have been otherwise healthy. Her last menstruation occurred about the middle of July, 1895. Her pregnancy was remarkable for persistent nausea and vomiting and constipation. She had been annoyed by very frequent micturition; had not complained of headache, but thought that her general condition had been good.

She presented herself for confinement at the Jefferson Maternity in March, 1896, when examination revealed a living fetus whose position and presentation were normal. The patient's pregnancy had advanced to the ninth month, and she was evidently in the third or fourth week of that month. Examination of her pelvis was as follows: anterior superior spines, 22 centimetres; crests, 24 centimetres; bitrochanteric, 27 centimetres; right oblique, $20\frac{1}{2}$ centimetres; left oblique, 19 centimetres; external conjugate, 18 centimetres; distance between the tuberosities of the ischia, $6\frac{1}{2}$ centimetres. The head of the fetus could not be brought to enter the pelvic brim. The uterus was tense, and the abdomen was remarkable, at the time of examination, for tympany which extended unusually high in the abdominal cavity. The patient's urine was yellow; specific gravity 1010, slightly acid; no albumin; no sugar; urea 1.13 per cent. As the head of the fetus was manifestly disproportionate in size to the pelvis and could not be brought to enter the pelvic brim, labor was not induced, but a week was spent in endeavoring to improve the condition of the patient's excretions. Her bowels were repeatedly moved by laxatives, she had daily warm baths and a selected diet.

The membranes ruptured on March 15th at 3 o'clock in the afternoon, and she had slight pains. During the night she slept under small doses of chloral. On the following day she had increased pain, and at 4 P.M. was examined under chloroform. The vaginal examination confirmed the diagnosis of a rachitic pelvis so contracted that the head of the fetus could not be brought to enter by suprapubic pressure. Even under anesthesia the abdomen was very tense, while the tympany did not in the least disappear. The vagina was but little developed, and, in view of the very considerable disproportion

between the head and the pelvis, it was decided to deliver the patient by abdominal section. She was anesthetized by ether and at 6.30 was delivered by celio-hysterectomy. The operation proceeded without difficulty. The patient was placed in the Trendelenburg posture, and the only noticeable peculiarity of the operation was the unusual tympany of the intestine, which became more evident when the abdomen was opened. A female child weighing 6 pounds was readily delivered in excellent condition. The child's head measured as follows : maximum, 13 centimetres ; occipito-mental, 10 centimetres ; occipito-frontal, 11 centimetres ; biparietal, 9 centimetres ; bitemporal, $6\frac{1}{2}$ centimetres ; bimastoid, 9 centimetres ; bisacromial, 12 centimetres ; length, 45 centimetres. The placenta weighed 1 pound 2 ounces. The cord measured 16 inches in length.

In view of the patient's physical and social condition, and with her distinct consent obtained before the operation, the hysterectomy was done to prevent further conception. The method of its performance consisted in clamping the uterus transversely so soon as the child and its appendages were removed, ligating the ovarian and uterine arteries, and amputating the uterus at the junction of the lower uterine segment with the upper contractile segment. There was no noticeable hemorrhage, and the stump was brought together by continuous suture. The weight of the uterus after removal was 1 pound 12 ounces. The patient rallied at once from the anesthetic and sustained no evident shock. Her pulse immediately after the operation was 78, her respiration 20, and her temperature $98\frac{1}{2}^{\circ}$. Aside from the condition of the intestine, the patient's condition gave cause for no anxiety. During the night following the operation she was given calomel in repeated doses, and slept during the greater portion of the night. The secretion of milk began to form on the day following; her temperature remained below 100° , her pulse varying from 66 to 72 until the second and third day after the operation. The tympany, however, failed to disappear, although the bowels were moved thoroughly by injections, fecal matter passing with the free passage of gas. The patient began to be annoyed by nausea and vomiting, when the stomach was repeatedly washed out, relieving her at once, her tongue remaining clean. The patient was hungry, perfectly conscious, and complained of no pain. Her highest temperature was 103° up to the time of her death, which occurred on the fifth day after operation. The dressing was removed and the wound inspected four days after



Intestinal Ulcers
caused by Bacillus Coli Communis;
Peritonitis after Caesarian Section. Davis.

operation, when the incision was found healed by first intention. Death ensued with a very high pulse and rapid respiration, the patient remaining conscious until within a few moments of death. Fecal matter was repeatedly passed from the lower bowel, but the tympany high in the abdomen was never entirely removed. From observation of one other case of similar nature, I made the diagnosis of infection with the bacillus coli communis, and, believing that the source of infection was within the intestine, I did not reopen the abdomen for the relief of the condition.

The post-mortem examination was made by Dr. Bevan. The abdominal cavity contained one quart of opaque, blood-stained, serous fluid. The intestines, both small and large, were almost wholly covered by a thin layer of glutinous fibrin which caused adjacent coils of small intestine to adhere. A large mass of fibrin had formed in the lower part of the abdominal cavity near the median line, and by pressing upon the ileum it had produced an obstruction three inches from the ileo-cecal valve.

Above the point of obstruction the intestines had become enormously distended with the accumulated gases of putrefaction.

The mesentery and omentum presented a somewhat curious appearance. Considerable quantities of fat had accumulated in these structures, and small hemorrhagic areas occurred at frequent intervals beneath the serous surface. The hemorrhagic areas were particularly numerous in the mesentery near its attachment to the small intestines.

The lymphatic glands of the mesentery were swollen and their consistence much less than that of normal glands.

The stump presented an intensely red color, and small masses of fibrin were observed attached to the surface at varying intervals. Organization, however, was quite advanced and seemed to have been progressing favorably. Small ulcers, varying in diameter from a quarter to a half inch, were found in great number in both the small and large intestines. (See plate.)

The ulcers were of irregular outline with margins slightly elevated and indurated. As a rule the submucosa formed the floor of the ulcer, though in many instances the necrosis and sloughing had extended to the muscularis. A wide zone of intense inflammation surrounded each ulcer, and here the mucous membrane was of a deep red color, rough, and edematous.

The follicles in the lower part of the ileum were swollen and

the patient had been, for some time before her admission to the Maternity, living with some of her relatives, persons of uncertain character and habits, where her hygienic surroundings could scarcely have been favorable for the avoidance of obstinate constipation. She said that she had been repeatedly and obstinately the victim of constipation.

CASE II. was that of a Polish woman, aged about 30 years, who spoke but a few words of English. It was impossible to get a satisfactory history of her previous life, except that no evidence could be obtained of a serious previous illness. She was admitted to the Maternity on February 22d, 1896, in the eighth month of pregnancy. An examination revealed her pelvis slightly above the normal in size, the child living, the head at the brim of the pelvis and in the usual position. The urine of the patient had a specific gravity of 1030, a cloudy yellow color, with acid reaction, contained no albumin, a trace of sugar, while the percentage of urea was 2.27. While waiting for the termination of pregnancy the patient developed no condition which required treatment. Her bowels moved under the influence of castor oil and salts, there was no distension or tympany of the abdomen, her appetite was good, while her urine continued normal. She was observed, however, to be of a peculiarly nervous and excitable temperament and at times to suffer from sleeplessness. She was illegitimately pregnant and had been sent away from her home by relatives for her confinement. This fact seemed to weigh very heavily upon her mind, and she brooded constantly over her condition. Her sleeplessness, however, was not sufficiently pronounced to call for the administration of narcotics and sedatives.

The patient came into spontaneous labor on the 14th of April, her labor being hard and uterine contractions at times violent. It was noticed that her pulse and temperature were elevated at the time of labor and that her pulse was exceedingly rapid and not very strong. She had been for a few days previously much excited over the admission of a patient to a bed adjoining hers, and had been made very angry because of the recent admission. It was necessary to accomplish delivery by the use of forceps, as rotation was defective and the child was large. The fetus was a male weighing 8 pounds 5 ounces, and 56 centimetres long, whose cranial measurements were as follows: maximum diameter, 16 centimetres; occipito-mental, 14½ centimetres; suboccipito-bregmatic, 11 centimetres; biparietal, 10½ centimetres; bitemporal, 9 centimetres; bimental, 8½ centimetres;

bisacromial, $14\frac{1}{2}$ centimetres. The placenta weighed 1 pound 12 ounces. The cord was 35 inches in length.

The patient sustained a laceration of the pelvic floor and perineum, which was promptly closed. Labor was conducted under careful antiseptic precautions. During labor it was necessary to anesthetize the patient for the application of forceps, when the remarkable rapidity and weakness of her pulse became more evident. Her muscular strength, however, was very great, and her general appearance was that of a well-developed woman. During labor her temperature was 101° F., her pulse 120. Immediately after labor her temperature rose to 103° and then to 105° , her pulse being 120 to 130; her respirations were 36. The lochial discharge was not offensive, the abdomen was not swollen, and evidences of septic infection were not present. The uterus was thoroughly scraped with the dull curette and thoroughly doused with dilute bichloride solution. The vagina was thoroughly disinfected with bichloride and the stitches freely powdered with boracic acid. The washing-out of the uterus had no immediate effect upon the temperature, nor did it alter the character of the lochial discharge. The patient was made to have repeated bowel movements by calomel followed by the administration of salines. The weather at the time was excessively hot, and the patient was kept in a pack until she perspired freely and her temperature was reduced several degrees. No form of treatment, however, had the slightest effect upon her remarkable restlessness and her persistently high temperature. She became actively maniacal, attempted to leap from the window of her room, attacked one of her nurses, biting her arm severely, and refused to take nourishment in any form. There was no tenderness over the uterus, no enlargement of the abdomen; the lochial discharge, while not abundant, was not foul, and the patient's tongue at this time was fairly clean. The examination of her urine showed the absence of albumin and casts, while a more than usually large amount of urea was secreted. The patient was fed by opening the mouth with a gag and introducing the stomach tube. It was necessary to tie her in the bed and to feed her partially by the rectum. It was almost impossible to induce sleep, although stimulants, cold packing, sponging, codeia, hyoscine, and other sedatives were employed. An interval of comparative consciousness occurred but was of brief duration. The patient developed a slow form of catarrhal pneumonia, and finally perished in a comatose condition eleven days

after the birth of her child. During her illness her blood was examined microscopically, the corpuscles being stained to detect the presence of bacteria. None were found, although the blood was extensively disorganized, the corpuscles containing an abundance of granular material. The clinical diagnosis of puerperal mania seemed to be the only one justifiable, the active source of the mania not being clear. The patient was repeatedly examined for evidences of puerperal septic infection, without success.

The autopsy by Dr. Bevan disclosed the following condition :

Rigor mortis well marked in extremities and muscles of the neck and abdomen. Post-mortem lividity slight. *Abdominal cavity* contained a small amount of clear serous fluid; there was a marked flexure in the transverse colon, the loop extending below the umbilicus; the liver was very dark in color and extended three inches beyond the costal margin. *The thoracic cavity and pleural sacs*—There was but a small quantity of fluid in the pleural sacs. Fibrinous adhesions were quite numerous about the upper lobe of the left lung; there were also quite a number about the middle and inferior lobes of the right lung. *Pericardium* normal. *Heart* normal; the right auricle and ventricle and the left auricle contained large chicken-fat clots. *Left lung*—The anterior margin was emphysematous; areas of catarrhal pneumonia were scattered throughout the lung, and they were particularly numerous in the upper lobe; the lung was highly edematous; the bronchial tubes were the seat of a catarrhal inflammation. *Right lung*—In same condition as left. *Spleen* apparently normal. *Left kidney*—The organ was enlarged and the surface was irregular; stellate veins were quite prominent beneath the capsule; the color was much lighter than the normal; on section the organ cut with increased resistance; the cortex had a light gray color and its surface was irregular; the capsule stripped off easily and exposed a smooth, shining surface; the pyramids were dark-red in color, with yellow lines radiating from their apices toward the cortex. *Right kidney*—In same condition as left. *Stomach and small intestine* the seat of a slight catarrhal inflammation. *Large intestine*—Large, spherical masses of desiccated feces were present in great numbers in the loop of the transverse colon; the mucous membrane was slightly inflamed and a few scattered hemorrhagic areas were to be observed. *Liver*—This organ was slightly increased in size and its color was quite dark; on section a small amount of blood dropped from it; its consistence was

increased, but there was not the least evidence of contraction. *Uterus*—Involution seemed to have been progressing nicely; the muscular tissue was quite firm; the cavity was clean.

A summary of the post-mortem notes reveals the fact that the cause of the patient's mania was autoinfection from fecal absorption, occasioned by an anatomical anomaly in the large intestine. The predisposing cause of this outbreak was the patient's excitable and melancholy disposition, with the possibility that she had at some previous time had a former outbreak of mania. She described in her delirium her incarceration in a room whose windows were heavily barred. No evidence of puerperal septic infection could be found at post-mortem.

The existence of this anomaly in the large intestine had never come to my notice in obstetric practice, but Dr. Bevan informs me that three years ago he first noticed this in autopsies made at the Philadelphia Hospital. This loop of large intestine was situated directly in the median line of the abdominal cavity. In three hundred autopsies it was found in eighteen bodies. The length of the loop varied greatly, from three to four inches in some cases, while in others it extended to the umbilicus, and in one case to the pubes. The history of these patients showed that they had been subject to temporary attacks of mental disturbance accompanied or immediately followed by periods of obstinate constipation.

The most successful treatment for the relief of these cases was the persistent use of very large doses of magnesium sulphate. These patients showed a peculiar form of nephritis with marked atheroma of the larger vessels, cirrhosis of the liver, and catarrhal inflammation of the large intestine. Out of the eighteen the history of insanity was obtained in fourteen; two committed suicide; two were brought into hospital unconscious, dying shortly afterward of toxemia. This loop increases the length of the intestine from one-half to two and one-half feet, greatly enlarging the mucous surface over which the contents of the bowel must pass. The loop is so disposed as to greatly retard the passage of feces and favor decomposition. Masses of dried feces were usually found in this loop, while other portions of the large intestine were empty. It is evident that such a condition must greatly predispose to the occurrence of toxemia.

In reviewing these cases the first may be summarized as an acute lymphangitis of the peritoneum following infection by the bacillus coli communis and accompanying staphylococci, which gained access to the peritoneal tissues through multiple

ulcers in the intestine. The differential diagnosis of this condition from septic infection conveyed by hands and instruments is to be found in the comparatively low temperature, very rapid pulse, lack of chill, and absence of other symptoms of ordinary wound infection. In the present stage of our knowledge it seems that all that can be done to obviate this condition will consist in thorough and repeated purgation of pregnant patients, and especially of those who manifest tympany and distension of the intestine. The second case was one of acute mania following delivery by forceps, occasioned by autoinfection by bacteria and ptomaines from the intestinal tract. An anatomical anomaly, an unusual loop of the large intestine causing chronic retention of fecal matter and absorption, was the existing cause of this condition.

These cases are offered as a contribution to the pathology of operative obstetrics, as the peculiar conditions present, so far as I have learned, have not been previously observed in obstetric cases, and hence we are without experience in the matter of treatment.

250 SOUTH TWENTY-FIRST STREET.

TUBERCULAR PERITONITIS.¹

BY

RICHARD C. NORRIS, A.M., M.D.,

Physician-in-Charge, Preston Retreat ; Gynecologist to the Methodist Hospital ;
Visiting Obstetrician to the Philadelphia Hospital,
Philadelphia, Pa.

It is now recognized that tubercular tumors in the abdominal or pelvic cavity may occur as one or more of the following four distinct varieties : (a) nodular tumors in the mesentery ; (b) tumors of the omentum ; (c) thickened and contracted coils of the intestine ; (d) encysted exudation forming a tumor with walls composed of adherent intestines and other abdominal or pelvic viscera which happen to be adjacent to the focus of inflammation. Of these varieties of tubercular tumors the last-named is of greatest interest to the abdominal surgeon, because

¹ Read before the Section on Gynecology, College of Physicians of Philadelphia, May 21st, 1896.

an accurate diagnosis is not always possible, and because surgical treatment in some mysterious manner offers a very fair means of amelioration and often of cure. In a very large proportion of cases the surgeon makes his diagnosis of peritoneal tuberculosis after the abdominal cavity has been opened for what has been thought an entirely different pathological condition. The most frequent error is to mistake cystic ovarian disease for encysted tubercular peritonitis. Indeed, Osler¹ has stated that of ninety-six cases of celiotomy for tuberculosis thirty were diagnosed ovarian disease prior to the operation; and to fortify those who have made this error he remarks that "there is no single criterion which enables us to say in a given case that the condition is one of encysted peritonitis, nor, indeed, is there any special group of symptoms which can be regarded as distinctive. It were folly to lay down in parallel columns differential rules in an affection in which again and again the ablest diagnosticians in our profession have erred." Of the three cases whose notes accompany this communication, notwithstanding the fact that they were encountered within a period of six months and that their quick succession kept tuberculosis in my mind as a condition to be differentiated, in only two was tuberculosis suspected and in none was the correct diagnosis made prior to operation. These cases have induced me to collect from available sources and to formulate a few clinical rules, the observance of which will at least serve to keep this disease in mind and will sometimes enable one to have a mental reservation in favor of encysted tuberculosis when the diagnostic signs of other abdominal or pelvic tumors are not wholly satisfactory. The histories of my cases are as follows :

CASE I.—Miss S., white, æt. 20 (Case No. 1766, Methodist Hospital). The family history is negative, with the exception of the fact that one aunt died of phthisis. The patient had not been a robust girl, but always enjoyed fair health until the winter before I saw her, when she had a persistent cough and frequent chest pains. Eight months before examination the abdomen began to increase in size, with intervals when it would apparently decrease and again become enlarged. The pain in the abdomen had been nearly constant for the last two months and moderate in severity. There had been a slight gain in weight in the past five months. The menses were irregular, painless, and scanty. The examination showed a very thick abdominal wall, quite protuberant. There was

¹ Johns Hopkins Reports, vol. ii.

dulness over the lower part of the abdomen, with tympany in the flanks and epigastric region. The tumor presented indistinct fluctuation to abdominal touch. Vaginal examination found the uterus anterior and inclined toward the left. The posterior cul-de-sac contained a mass which more distinctly gave fluctuation than had been obtained by abdominal touch. The tubes were outlined as thickened, enlarged masses to either side, and the ovaries could be distinctly palpated. Three physicians, not resident in this city, had diagnosed the case ovarian tumor. The presence of ovaries only slightly enlarged precluded such a diagnosis, and an opinion was formed hesitating between encysted tubercular peritonitis and parovarian cyst. The patient's pulse and temperature had been normal throughout a week's residence in the hospital. Celiotomy was performed, and at the operation the peritoneum was found very much thickened, firmly adherent to the parietal wall, and studded with tubercles. When the peritoneum was opened about three litres of yellowish fluid containing flakes of lymph were discharged. The intestines were firmly adherent, forming a large cavity which extended to the liver and diagonally across the abdominal cavity to the left iliac fossa. The intestines, peritoneum, uterus, and posterior wall of the bladder were studded with tubercles. The tubes were much enlarged and contained cheesy tuberculous masses, and the ovaries were buried beneath a mass of adhesions. The tubes and ovaries were enucleated and removed with considerable difficulty on account of the widespread adhesions and free bleeding. The abdomen was irrigated with sterilized water and a glass drain was inserted. Seven hours after the operation the temperature rose to $102\frac{1}{2}^{\circ}$, declined to $99\frac{1}{2}^{\circ}$ four hours later, after which time it rapidly rose to 104° . Respirations were rapid, 42 to the minute, and the pulse 150. There was well-marked delirium, but neither nausea nor vomiting followed the operation. The bowels were moved by means of an enema. In spite of active stimulation the patient died at midnight, thirty-two hours after the operation.

At the autopsy there were no signs of inflammation about the ovarian and tubal stumps. Tubercles were widely spread throughout the peritoneal cavity, the intestines, and the mesenteric glands, and covered the under surface of the liver, to which the stomach was adherent from tubercular inflammation. The spleen, the lungs, and the pleura were also studded with tubercles.

I am not quite certain why this patient succumbed so rapidly after the operation, surrounded as she was by the usual precautions against sepsis. There has been described an acute tubercular septicemia which possibly can sometimes be precipitated by surgical treatment. Whether this case is an example of such a condition, or is simply a case of rapid heterogenetic septic peritonitis, is not altogether plain.

The symptoms after the operation and the post-mortem findings were not those we customarily observe in septic peritonitis following celiotomy.

Osler, in his report of a case of "Toxemia in Tuberculosis,"¹ remarks that "the symptoms of a profound intoxication in tuberculosis are met with under these conditions: 1. In those rare cases, described most commonly in children, in which death may occur with symptoms of profound toxemia before there are any extensive localized foci of disease. 'The children have presented in the course of the disease all the signs of a profound intoxication, and, as the tuberculous lesions of the lungs and all other organs are altogether insufficient to produce death, it is quite reasonable to attribute the fatal results to the bacillary intoxication.'" These are the instances of the *fièvre infectieuse tuberculeuse suraiguë*. 2. Acute miliary tuberculosis is often accompanied with toxic features, giving to many of the cases clinical pictures of severe typhoid fever. Post mortem, miliary tubercles are found extensively throughout the viscera and on the serous surfaces. 3. In chronic pulmonary tuberculosis there may develop, with or without fever, a profound toxemia, with dry tongue, delirium, rapid pulse, and signs of intense intoxication. The patient may be admitted to hospital unconscious, with a normal or subnormal temperature, and, as in a case which was under my care at the Philadelphia Hospital, the autopsy alone reveals the true nature of the disease."

If such a sudden overwhelming of the patient occurs sometimes in the course of tuberculosis, is it not reasonable to believe that the traumatism of a difficult salpingo-oöphorectomy will, in certain cases already prepared for a tuberculous conflagration, be sufficient to awaken a fatal toxemia, even when the patient is surrounded by all possible safeguards against heterogenetic infection?

If this statement be true, then this toxemia bears an impor-

¹The Practitioner, 1894.

²Aviragnet: "De la Tuberculose chez les Enfants." Paris, 1892.

tant relation to some cases of death following celiotomy for tubercular peritonitis. On the other hand, some of these cases of sudden toxemia in tuberculosis, as Dr. Osler suggests in a letter recently received from him, really may be a cryptogenetic septicemia due to associated organisms. It is therefore probable that in a large proportion of cases of sepsis following celiotomy for tubercular peritonitis, infection, through faulty technique, has been added to a patient more vulnerable on account of her tuberculosis.

CASE II.—Mrs. M., colored, æt. 42, married (Case No. 1810, Methodist Hospital). Father died twenty years ago of phthisis ; three sisters died of phthisis.

Previous History.—Had pleurisy and pneumonia at 20 ; not in good health since that time.

Present Illness.—Ten months ago began to feel ill and was confined to bed with fever and sweats. Abdomen became enlarged and sensitive. Has a cough most every winter. Temperature on admission, 100½° F. ; pleuritic pains ; respirations 36. Throughout nine days the temperature ranged between 101° F. (evening) and 99½° F. (morning).

Examination.—Uterus retroverted and fixed. The parametritic tissues were hard and infiltrated, giving the sensation to touch of old pelvic inflammatory lesions. An abdominal enlargement reaching half-way to the umbilicus was tender and doughy. No fluctuation could be detected. The upper edge of the swelling was sigmoid and more prominent on the right side. A diagnosis of pyosalpinx was made. The abdomen was opened and coils of intestines studded with small pink tubercles were loosely adherent and easily separated. The tubes and ovaries were not enlarged, and only at the fimbriæ of the left tube were tubercles recognizable. There was no encysted fluid. All adhesions were carefully separated ; the tubes and ovaries were not disturbed ; the peritoneal cavity was freely irrigated, and a glass drain was inserted which was removed at the end of twenty-four hours. One week after the operation the temperature was normal, but became elevated for several days, due to inflammation of the abdominal wound. The patient shortly thereafter regained her health and is now entirely well. There is no sign at present of the tubercular inflammation in the peritoneal cavity.

CASE III.—Henrietta G., æt. 17, colored. Mother died of phthisis. The family history is otherwise without interest.

About five or six weeks ago the patient was taken with pain

in the left inguinal region. There has been long-continued constipation, the bowels often not moving for a week at a time. Three weeks before entering the hospital she noticed a sore spot and slight enlargement in the left groin, and at this time took to her bed. The bowels have not moved during the past week. Menstruation is regular, profuse, and without pain. There is no history of specific disease nor of a miscarriage. There have been no recurrent attacks of pelvic inflammation..

Upon examination a tumor was found in the left inguinal region, perceptible to sight as well as to touch. It was very sensitive and boggy, dull on percussion, and apparently was as large as an infant's head.

Examination through the vagina and the rectum, under ether, showed a very large mass extending across the abdomen, a little higher on the right than on the left side, and reaching nearly to the umbilicus. Fluctuation could be felt by the finger in the vagina upon pressing down from above with the other hand. The uterus was small and anteflexed.

The posterior cul-de-sac and the lateral vaginal fornices were densely infiltrated ; the tubes and ovaries could not be palpated. The physical signs were not unlike those of a large pelvic abscess due to suppurating tubes and ovaries. The patient was used as a text for my clinic to the class at Blockley, and, after going over the various diagnostic features of abdomino-pelvic tumors, I stated my diagnosis to be either a pelvic abscess or encysted tubercular peritonitis.

Had it been possible to believe as trustworthy the patient's statement with reference to gonorrhea or miscarriage, or recurrent attacks of pelvic inflammation, the diagnosis of pelvic abscess would not have been placed first. As the patient was in the hospital under the surveillance of the police department for the larceny of several diamond rings, her statements about herself could not be credited. Her temperature and pulse were normal, her tongue was heavily coated, and there was a history of constipation that had existed for a week.

High rectal enemata and saline purgatives had the effect of reducing the swelling on the left side to a considerable extent, but a large mass yet remained which, by combined examination, gave obscure fluctuation. It was therefore decided to evacuate the fluid contents of this mass, whatever it might be, by vaginal section, and, should the condition prove encysted tubercular peritonitis, it would be of interest to determine whether or not vaginal section and drainage for this disease

would prove as efficient as incision and drainage through the abdomen. The posterior cul-de-sac was opened with a free incision, and the fingers were passed through the inflammatory material until they entered the cavity, which discharged six ounces of straw-colored fluid containing a few flakes of lymph and quite like the fluid so commonly found in encysted peritonitis. The coils of intestines, closely adherent and forming the upper boundary of the tumor, could be distinctly felt. The tubes and ovaries, not seriously diseased, were freed from adhesions and carefully examined. They and the intestines were studded with fibrous nodules, presenting to the touch the characteristics of tubercular inflammation. The cavity was irrigated and was packed with iodoform gauze. At intervals of three days the irrigation and gauze packing were repeated for two weeks, when the cavity had closed. Seven weeks after the operation the large mass could not be felt. There was only a small area of resistance in the region formerly occupied by the tumor. The patient has been entirely well throughout this period. The bowels move regularly, and there is neither pain nor tenderness in the region of the uterus.

I am not aware how frequently vaginal section has been employed in the treatment of encysted tubercular peritonitis. When the tubercular character of the tumor has been recognized, and when the tumor can be reached through the vaginal route, it would seem desirable to open and drain by vaginal section, since the remote danger of hernia is thereby avoided, and from the history of this case the ultimate curative effect is apparently as good as that from abdominal incision and drainage.

It will be observed that an accurate diagnosis was not made in any of the three cases whose histories have been read. In the presence of an obscure pelvic or abdominal growth, when the patient's general condition does not contraindicate an operation, the gynecologist sometimes is prone to omit a searching examination into organs other than the genito-urinary, feeling satisfied that the operation will reveal whatever obscurity may surround the diagnosis. While it is true that a diagnosis between encysted tubercular peritonitis and an ovarian cystoma frequently is impossible, a very careful study of the patient's general condition and of the pelvic organs conjointly will sometimes indicate the tubercular origin of the tumor. The family history will very frequently point to tuberculosis, as occurred in all the cases of this report. It should be borne in mind that an ovarian cyst is rare in the negress, and that it usually occurs later in life

than encysted peritonitis. Two of my cases were in colored women, and in the third case a very large tumor occurred in a girl 20 years of age. Again, tubercular peritonitis is ordinarily more rapid in progress; the loss of appetite, of strength, and of flesh is greater. When the tubercular inflammation is not localized in a small area, abdominal or pelvic pain, tympanites, constipation from pressure or occasional or frequent attacks of diarrhea, and in very rapidly progressing cases even emaciation and night sweats, may occur. Very valuable and often available points in diagnosis are a history of frequent attacks of bronchitis, of pleurisy or pleuritic pains, and the presence of the physical signs of early tubercular lesions of the apex of one or both lungs. Much can be learned from a study of the temperature. An elevated, a subnormal, or a low morning and an elevated evening temperature are frequently noted in tubercular peritonitis when the patient otherwise is apparently enjoying robust health. It must be borne in mind, however, that a suppurative ovarian cyst will be accompanied by fever, and that in tubercular peritonitis long periods occur in which the temperature is perfectly normal. In two of my cases the patients happened to be under observation at a time when the temperature remained practically normal.

Investigation of the abdominal and pelvic physical signs of encysted tubercular peritonitis will frequently confront with uncertainty even the skilled gynecologist, and in such cases I believe complete anesthetization of the patient is essential to a reasonably satisfactory diagnosis. When the tumor reaches well out of the pelvis, enlarged glands may be felt as nodular masses, at some portions of the margins of the growth, which a trained touch will often differentiate from the irregularity sometimes recognized in a multilocular ovarian cystoma; and when the tumor is smaller and occupies the pelvic cavity the ovarian tumor is more distinct and less irregular in outline. Since tubercular peritonitis originates in the Fallopian tubes more frequently than is generally believed, tubercular disease should be thought of when induration is felt about the tubes and ovaries in patients in whom pelvic inflammatory disease due to abortion or to gonorrhea may be excluded. Under the same conditions the finding, by rectal examination, of induration of the utero-sacral ligaments will also be confirmatory of pelvic tuberculosis. An ovarian cyst can, of course, be excluded when, as in one of my cases, the ovaries are distinctly palpated.

When an ovarian tumor is accompanied by pelvic adhesions the pelvic symptoms will be more severe than in tubercular peritonitis, while in the latter the general symptoms will usually be more noticeable.

In Case 3 the condition was diagnosed circumscribed peritonitis accompanying septic disease of the appendages. The operation disclosed what I have previously observed, namely, that the peritonitis was more extensive than obtains in chronic peritonitis due to tubal disease. Moreover, the fact that ascites is so prone to accompany peritonitis associated with tubercular salpingitis should have suggested more strongly the tubercular origin of the inflammation in this case. Furthermore, the absence of recurrent attacks of pelvic inflammation, so commonly observed in septic tubal disease, should have suggested tubercular rather than septic tubal disease.

I am not aware of a wholly satisfactory explanation of the fact that exposure of the abdominal cavity to air in cases of tubercular peritonitis results in eighty per cent of recoveries. Mannotti and Bariochi,¹ from their experiments on rabbits and dogs, conclude that, in animals, opening the abdomen is followed by an inflammatory reaction of the peritoneum that greatly increases its absorptive power, prevents further infection, vascularizes the tuberculous nodules, and finally promotes their absorption and transformation into connective tissue. Morris² experimented with the fluid removed from the abdomen of patients with tubercular peritonitis, and isolated a toxalbumin the product of the growth of putrefactive bacteria which gained access to the fluid from the air. His experiments lead him to conclude that a toxalbumin thus formed after celiotomy is fatal to tubercle bacilli.

The former explanation appeals more strongly to me since it also explains how Nature, unaided, not infrequently effects a spontaneous cure, and more readily accounts for the adhesions between the viscera that so commonly follow either a spontaneous or surgical cure. Finally, with reference to the surgical treatment of encysted tubercular peritonitis, a problem which I will ask you to discuss is this: To what extent shall adhesions be separated and viscera be removed when the tubercular process involves large areas of the pelvic and abdominal organs? This question occurred to me when operating upon the first case I have reported. It was impossible to remove all the pelvic

¹ Archiv f. Gynäk., Bd. xlvii., H. 1.

² Medical News, October 13th, 1894.

organs attacked by the tubercles; the bladder, the uterus, the rectum, in fact the entire pelvic contents, were invaded. The removal of densely adherent tubes and ovaries left behind tissues whose resistance prior to the operation was below the normal, but after the bruising and tearing necessary for enucleation it seemed to me that their vitality and resistance to infection were further diminished. The result in this case confirms my belief that a similar condition is more safely and equally efficiently treated by incision and drainage, without an attempt to remove a portion of the diseased organs.

500 NORTH TWENTIETH STREET.

CESAREAN SECTION AND HYSTEROMYOMECTOMY FOR
MYOFIBROMA OF THE UTERUS COMPLICATING
PREGNANCY; RECOVERY.¹

BY

ROBERT H. HAMILL, M.D.,
Philadelphia, Pa.

(With three illustrations.)

L. M., aged 24, colored, was admitted to Howard Hospital January 24th, 1896; married; no previous children; no miscarriages; menstruation began at 14 years of age, regular, fairly profuse, and lasting five days. Family history negative. She has always enjoyed good health until present trouble. About two years ago, and about a year before her marriage, first noticed a small, hard lump in abdomen, midway between the umbilicus and pubis, and about as large as a "horse chestnut." This never gave her any discomfort. She was married December, 1894, and the following July (18th) menstruation ceased. For the first three months she suffered from emesis to such an extent that she could retain but little in her stomach. Fetal movements were felt in November, very markedly and persistently on the left side. She had constant pain in the right side, lancinating in character.

She came under my observation January 24th, 1896, then

¹ Read before the Section on Gynecology, College of Physicians of Philadelphia, May 21st, 1896.

being in her sixth month of gestation. The following condition was noted: A well-nourished woman, abdomen much distended and irregular in contour, as shown in photographs. The uterus could be readily mapped out, occupying the left iliac region and extending above the umbilicus. Fetal heart sounds were heard, also placental souffle. As gestation progressed, owing to the pressure of the tumor, the uterus was partly bent on



FIG. 1.

FIG. 1 showing irregular contour of abdomen.



FIG. 2.

FIG. 2 showing the distension of abdomen.

itself. On the right side was a large tumor entirely filling the right iliac region and extending half-way between the umbilicus and diaphragm, the upper half being soft, while the lower portion was hard and slightly irregular. The entire mass was fairly movable. At this time the abdomen was slightly larger than a gravid uterus at term. Vaginal examination

revealed a patulous os and a nodule the size of an orange in Douglas' pouch. The remaining portion of the pelvis was filled by the uterus. The diagnosis was made of a uterine fibroid with cystic degeneration complicating pregnancy.

Celiotomy March 13th, 1896, seven weeks before the end of gestation. The incision made was very long, extending from



FIG. 3.—Uterus and tumor. C, cervix; U, uterus with fibroid nodules; M, myofibroma.

just below the lower margin of the liver to the pubis. The tumor was slightly adherent to abdominal parietes, with some dense adhesions to the lower margin of the liver, but these were very easily separated. After delivery of the tumor and uterus an incision was made in the latter, about fifteen centimetres in length, and a male child, which was presenting by the breech,

was delivered. The line of the incision was directly over the site of the placenta. The cervix was tightly grasped by my assistant before making the uterine incision, and the contraction of the uterus after delivery of the child was so rapid and thorough that there was scarcely any loss of blood. I then removed the tumor and uterus at the junction of the lower uterine segment and cervix, dropping the stump and covering it with peritoneum. The weight of the entire mass was twelve pounds. The hemorrhage from the liver where the adhesions were separated was very profuse and exceedingly difficult to control, which was done only by applications of Monsel's solution and packing with gauze. The gauze was removed in thirty-six hours, and the abdominal wound closed by through-and-through interrupted sutures. The patient suffered tremendously from shock and was with difficulty resuscitated. The child, which was at once placed in an incubator, did very well and is now vigorous. Its weight was three and a half pounds. The woman made an uninterrupted convalescence and left the hospital in five weeks, perfectly well and strong. One fact during the convalescence is unique, so far as I am able to discover. Owing to the tremendous shock after the operation the woman did not secrete any milk whatever, but after a period of four weeks lactation began very vigorously, and since then she has been able to nourish her babe entirely. I know of several cases where lactation has been interrupted, for several weeks after its establishment, by some illness, and has then reappeared.

The following microscopical notes were furnished me by Dr. Harry D. Beyea: "The specimen is the fibroid uterus which has been amputated at the internal os, together with a fibrocystic tumor, the size of an adult's head, attached to the right posterior surface of the body of the uterus by a broad pedicle. The uterus measures 16.5 by 13 by 11 centimetres in its various diameters. The uterine wall at the side of the Cesarean incision measures 5 centimetres in thickness. The surface of the uterus is smooth and normal, except where attached to the tumor and in relation with the right posterior surface at the junction of cervix and lower uterine segment, where there is a subperitoneal fibroid nodule the size of a lemon. On introducing the finger into the uterus a submucous fibroid tumor, also the size of a lemon, can be felt protruding into the uterine cavity from the left posterior surface of the uterine wall. Tubes and ovaries are macroscopically normal. The tumor is a large,

cystic myofibroma measuring 22 by 17 by 21 centimetres in diameter. It is covered by a capsule, beneath which are seen a large number of dilated veins. Its surface is smooth, except over a small area on the posterior surface which was caused by dense adhesions. The half of the tumor away from its pedicle is composed of a thick-walled cyst, which contained three pounds of a thick, greenish fluid. The half toward the pedicle is generally the consistence of muscle tissue, with here and there a hard fibroid area. On section the cyst wall was found to be composed of tissue undergoing fatty degeneration. The tumor tissue surrounding the cyst cavity is friable and very soft for the distance of perhaps two inches. The pedicle of the tumor measures 8 by 5.5 centimetres.

“*Microscopical Examination.*—Sections made from various portions of the tumor showed it to be a myofibroma undergoing fatty degeneration.”

It is this variety of fibroma, in which the muscular element predominates over the fibrous, whose rapid growth pregnancy very markedly stimulates. The position of the largest tumor in this case made it impossible for the woman to deliver herself. When I first saw her several methods of dealing with the case suggested themselves: 1. Should I operate then and remove the tumor? The objection to this procedure was the great risk of interrupting pregnancy and thus sacrificing the life of the child. The patient was particularly anxious to have a living child, if possible, and I determined to delay interference and wait as long as possible in the hope that this could be postponed until the child was viable. 2. Should I induce labor at the time of viability and do a celiotomy later? I determined to wait as long as possible, and then, if feasible, remove the tumor and await natural delivery. The distension of the abdomen caused so much pain and distress that I could not defer action longer than I did, and I am grateful that I adopted the measure described; for had labor been induced I am very sure that the contraction of the uterus would have torn away the adhesions to the liver, they being very friable, and the woman would have bled to death, judging from the profuse hemorrhage which did occur. Had I attempted to remove the tumor at the sixth month, when she came under my observation, I should have had to sacrifice the life of the child, as I should have been obliged to do a hysteromyomectomy. Unless one is very positive as to the nature of the tumor in these cases, and also as to the organs to which it may be adherent and the character of

the adhesions, I think induction of labor or permitting natural delivery should be most seriously weighed. I believe the safest plan to pursue is to allow the case to go on until the child is viable, and then make an exploratory incision. This will readily show which is the safer procedure, and in the majority of instances I think a Cesarean section will be so considered as it saves the patient from the additional danger of a precipitate labor. No positive rule can be laid down, for each case must be judged according to its conditions.

344 SOUTH SIXTEENTH STREET.

FIVE CASES OF OVARIOTOMY IN WOMEN OVER SEVENTY
YEARS OF AGE.¹

BY

HOWARD A. KELLY, M.D.,

Professor of Gynecology and Obstetrics in the Johns Hopkins University,
Baltimore, Md.

IN the *Johns Hopkins Hospital Reports*, vol. iii., Baltimore, 1894, page 509, I collated and tabulated, with Dr. Mary Sherwood, one hundred and fifteen cases of ovariectomy in women over 70 years old.

I then reported in full two of my cases, aged respectively 75 and 73 years. The first was one of a rapidly growing right ovarian multilocular cyst with elongation of the adherent uterus up into the abdominal cavity (ascensus uteri). The tumor was removed June 18th, 1890, and the patient made an uncomplicated recovery. She died nine months later after an attack of grippe.

The second case was a left ovarian cystoma with areas of adeno-carcinoma. The tumor was removed July 11th, 1892, and the patient recovered rapidly.

The three cases which I now add to the list are as yet unreported.

CASE III.—Mrs. N., patient of Dr. Fenby, aged 74½ years; menopause between 45 and 50 years. She had noticed the presence of a tenseness of the abdomen for one year past; there

¹ Read before the Gynecological and Obstetrical Society of Baltimore, May 12th, 1896.

was no pain, but a constant languor, and a bearing-down in the pelvic region. The distension grew and she lost flesh apace, and for several months there had been nausea and indigestion.

I found a large *multilocular ovarian* cyst filling the abdomen, which was 102 centimetres in circumference and measured 42 centimetres from pubis to ensiform. The tumor was uniform in its outlines, but I diagnosed a multilocular cyst by noting the marked difference in tension between the fluids contained in the upper and lower poles while palpating it bimanually.

Operation August 28th, 1895. A long incision was made through fat abdominal walls, exposing the nacreous surface of the cystoma, which was tapped, evacuating 2,600 cubic centimetres of dark, bloody fluid, specific gravity 1020. There was an area of omental adhesions on top of the tumor, covering a surface 6 by 4 centimetres. The cyst was turned out, and its very vascular pedicle, 5 centimetres broad, on the left side, was tied off. The uterus lay in ante flexion. The opposite ovary was not diseased. The incision was closed with four layers of sutures, using continuous catgut for the peritoneum, silver wire through the fascia, and continuous catgut for the fat and subcuticular layers. The cyst was peculiar in that the mesosalpinx was obliterated, spreading the tube out flat on its surface. The patient recovered rapidly, sitting up on the eighteenth day. The incision at the time of her discharge, twenty-five days after the operation, looked like a fine hair line.

Pathologist's Report.—Specimen consists of ovarian cyst 23 by 23 by 15 centimetres in size. The upper part of anterior surface presents area of omental adhesions 8 by 4 centimetres. Remainder of surface smooth, glistening, and traversed by delicate, branching blood vessels. Fallopian tube, 12 centimetres long, is attached to the cyst by mesosalpinx, and the fimbriated extremity is stretched out over its surface, covering an area 13 by 4 centimetres. The cyst contains a large cavity, 14 centimetres in diameter, and numerous smaller ones divided by fibrous septa. Its walls average 1 millimetre, in one or two places, however, reaching 2.5 centimetres. These thickened portions consist of a honeycombed network of fibres containing small cyst cavities. Cyst contained dark brownish-red, hemorrhagic fluid. Histologically the cyst walls are composed of fibrous tissue lined by one layer of cylindrical epithelium. Many portions contain necrotic areas; there is also evidence of old hemorrhages into the tissue, especially surrounding the necrosis.

Fallopian tube is normal. Diagnosis, multilocular adeno-cystoma of ovary.

CASE IV.—E. J., 71 years old, and thirty-one years past the menopause, was sent into the hospital from the dispensary by Dr. W. W. Russell, complaining of an "abdominal tumor." She had first noticed an enlargement in the abdomen four or five months before, which increased steadily up to the time of her admission ; she had constant pain and cramps at times and was very sore to the touch. Her feet and ankles were more or less swollen, especially the left foot and ankle. Micturition for several months past had been difficult, and there was a constant irritability of the bladder. She had lost much flesh, was anemic and sallow, and had a bad cough.

Examination.—The abdomen was distended by a dome-like tumor, most prominent on the left side between the umbilicus and symphysis. The pelvic organs were senile and the uterus crowded down on the floor under the tumor.

Operation for *left ovarian adeno-cystoma*, April 25th, 1896. As the tumor was adherent to the entire lower anterior abdominal wall, the incision was made from symphysis to umbilicus and the abdominal cavity first opened above. The tumor was punctured and 3,500 cubic centimetres of yellowish, mucoid contents evacuated. The adhesions to the abdominal wall were then stripped off with the fingers and the tumor turned out, its broad pedicle clamped and divided, freeing the growth. After ligating the vessels at each end of the pedicle, a large hematoma was found dissecting its way up along the ovarian vessels above the sigmoid flexure. The vessels were completely hidden in this, so I drew the descending colon toward the median line and incised its mesocolon 6 centimetres above the brim on the outer side and exposed the ovarian vessels there, well above the hematoma, and tied them, preventing further hemorrhage. It was then easy to squeeze out the blood below and catch the vessels at that point also. The edges of the incision into the mesocolon lay in such good apposition that I did not suture them. In seeking out the ureter above and below the brim I was confused for a while by finding a calcareous, spindle-shaped enlargement of the internal iliac artery just below the bifurcation, feeling like a stone in a ureter ; the common and external iliac above this were soft and pliable. The abdomen was closed without a drain and the patient made a good recovery. She is still in the hospital.

Pathologist's Report.—Specimen (not examined microscopi-

cally) consists of a multilocular ovarian cyst approximately 17 centimetres in size ; for the most part smooth and glistening, but presenting a few adhesions. Numerous small blood vessels radiate from attachment of pedicle over its surface. Springing from the cyst on outer side of pedicle is a pedunculated cystic nodule 9 by 6 by 5 centimetres, consisting of delicate-walled cysts which contain transparent yellow fluid. The pedicle also contains small cyst cavities, on the inner surface of which calcareous material has been deposited. This nodule is encircled by Fallopian tube. The large cyst walls average 2 millimetres in diameter ; large areas, however, vary from 0.5 to 3 centimetres. These thickened portions on their inner surface present delicate cysts ; more deeply are composed of a dense fibrous network, the interstices containing thick, creamy fluid, also small amount of calcareous material. Springing into the cyst from these portions are large, irregular, exceedingly friable masses, also consisting of a fibrillated network in the meshes of which is a thick, creamy substance. The remaining portion of the inner surface of the cyst is covered by yellow, friable material, removed with difficulty, leaving roughened surface beneath Fallopian tube 10 centimetres long. Fimbriated extremity free, patent.

CASE V.—Mrs. B. A. W., a patient of Dr. Snively, of Waynesboro, Pa. She was 72 years old and twenty-two years past the menopause. She had always had good health. Between two and three weeks before my examination, while taking a bath, she had noticed a hard lump in her side, low down. She had no pain or other discomfort than frequent micturition.

I found on examination that the pelvis was choked with cystic tumors firmly wedged in and adherent ; the mass extended up into the lower abdomen and was made up of a number of thin-walled cysts.

May 2d, 1896, operation for *papillary ovarian tumors* extending on to the peritoneum. A median abdominal incision was made and the pelvis and lower abdomen found choked by the growths, mostly with thin walls, and everywhere below densely adherent. There were some papillary masses on the peritoneum, and one on the tumor, just under the incision, was removed for examination.

Enucleation was out of the question on account of the adhesions and the invasion of the papillary elements into the general peritoneum, and the abdomen was closed. The patient has recovered from the exploratory operation.



a small oval patch (as in the plate), and from its size and shape its origin is frequently ascribed to some maternal impression—*e.g.*, the mother having been frightened by a mouse. Often the hairy scalp appears to extend over the temple or upon one side of the forehead, as in Fig. 1, and not infrequently it is seen upon the cheek beneath the eye or involving both lids and vicinity, as in Fig. 2.



FIG. 2.

In rare cases a large extent of cutaneous surface is affected, and the whole trunk may appear as though covered with fur instead of normal skin (Fig. 3). The lumbar or pelvic region is also apt to be the seat of the hairy nævus, which in some cases has suggested a resemblance to "bathing-tights." The congenital growth rarely increases in extent, except as the body grows larger, but often the pigmentation becomes more pro-

nounced and the hair begins to grow coarser in adult life. The development of small hairy moles upon the face of elderly women, especially those suffering from hypertrichosis, is very frequently noted.

In the treatment of the pigmentary mole acids or the electrolytic needle may be employed. For small, round, dark spots on the skin a minute drop of nitric acid, applied with a wooden



FIG. 3.

toothpick, will often suffice to remove the blemish. In case of larger pigmented patches, either smooth or covered with fine hair, the surface of the skin may be dotted with the acid ; but extreme caution must be used to prevent ulceration, lest scars be left which would be far more disfiguring than the nævus itself. With children old enough to bear a little pain without crying, the pigmented spots may be blistered by touching them with

the point of the electrolytic needle or by passing it superficially through the epidermis.

In nævi of small or moderate size covered with coarse hair the electrolytic needle may be used, as in the treatment of hypertrichosis, and a fine result attained through patience and perseverance. In the *Journal of Cutaneous Diseases* for May, 1893, the writer has reported a case of extensive hairy and verrucous nævus involving the right cheek and lower eyelid, which was completely removed by means of electrolysis. The treatment consisted in carefully passing a fine, flexible steel needle, connected with the negative pole of a galvanic battery, through the most superficial portion of the growth, the circuit being completed by the patient grasping a moist sponge attached to the positive electrode. This was repeated until the electrolytic destruction of tissue reduced the growth to the level of the surrounding skin, removed the pigmentation, and to a certain extent destroyed the hypertrophied hair follicles. The slight growth of hair which persisted after the affected skin had become smooth and comparatively normal in color was destroyed by the introduction of the electrolytic needle into each separate follicle, according to the method employed in the treatment of superfluous hair. The young man now presents not the slightest deformity of the eyelid, and scarcely a trace, upon close inspection, of the dark, warty, and hairy growth which formerly attracted attention wherever he went and was the source of great mortification.

18 EAST THIRTY-FIRST STREET.

HINTS ON THE GENERAL MANAGEMENT OF INFANTS FROM A PRACTICAL STANDPOINT.

BY

HUNTER H. POWELL, A.M., M.D.,

Professor of Obstetrics and Pediatrics, Medical Department Western Reserve University;
Physician in Charge of St. Ann Maternity and Orphan Asylum;
Visiting Physician to Lake Side Hospital,
Cleveland, Ohio.

It is no exaggeration to say that of all the problems whose solution is incumbent upon medical men there is not one of greater importance than the reduction of infantile mortality. No thoughtful man can believe that reduction of the present

death rate is beyond human skill, but, on the contrary, must realize that the mortality is largely due to either ignorance or culpable neglect of our duties toward these helpless ones. It can only be regarded as a disgrace that the most reliable statistics of our largest cities show that one-tenth of all infants born die within the first month and one-fourth before the fifth year. While it is probable that statistics, taken the civilized world over, would make a more favorable showing, it is doubtful whether the decrease would be of importance. That it devolves upon the medical profession to bring about a marked reduction of the present mortality no one can doubt. This can only be accomplished by a thorough appreciation of all the preventable causes, with ceaseless efforts to ward off or correct them. This grand humanitarian work must fall in great measure to the lot of the family physician ; upon him chiefly we must depend for prompt and efficient action during the days of greatest danger, the first days of life ; it is by him that life-saving information must be imparted to nurse or mother. In this connection it is timely to say that every family physician must needs be a "pediatrist" —what necessity has joined together let no man put asunder. It is unnecessary to go further into this question ; the time will never come when the pediatrist can be a specialist—he must treat every organ in the body. Invaluable information concerning the management of infants and their diseases can be given the general practitioner by those physicians who in the charge of large numbers of infants have had special opportunities to study their physiology, pathology, and therapeutics. As writers and teachers they may be regarded as specialists, the term having a significance quite different from the same when applied to the special practitioner. In view of the many excellent books on the diseases of children, I hesitate somewhat in my purpose to record for the supposed benefit of the family practitioner the general management of infants as employed by me. Indeed, the only excuse I have to offer for so doing is based upon the fact that I have taken for a number of years a special interest in this line of professional work.

I feel that it may be possible for me to give very briefly some practical hints on certain points worthy of notice and remembrance. With this in view let me assume my task at the moment of birth, which in this instance has been normal and the babe is delighting the mother's heart with its lusty cry. A tumbler of water is handed by the nurse, and the eyes of the new-born are carefully washed, using absorbent cotton or small

pieces of clean linen ; this is sufficient in private practice, unless there has been a suspicious discharge from the vagina prior to confinement. If so, a drop of a two per cent solution of nitrate of silver should be instilled between the lids. The cord should now be tied one inch from the navel and again further off, and cut between, close to the first ligature applied. If the cord is "fat," care should be taken, when ligating, that the vessels are sufficiently constricted. It is best sometimes to strip such a cord before tying, squeezing out the Whartonian jelly. Narrow tape, strictly aseptic, answers well for ligatures. The cord is afterward dressed with borated absorbent cotton, which favors the mummifying process desired rather than putrefaction. This cotton need not be disturbed until the cord drops off, unless it gets wet when giving the sponge bath. If so, it should be replaced with fresh cotton. As a rule the ligature should not be applied until respiratory action has been thoroughly established. It is estimated that at least three ounces of blood will escape from a cord if cut immediately. Much of this would pass into the circulation of the child if left connected. This loss means considerable when it is remembered that not over nine ounces of blood are found in an infant weighing seven pounds. Expressing the placenta should never be practised until after the cord has been cut, for dangerous engorgement may be induced by forcing blood into the child. If the child is born in an asphyxiated condition, with face livid from congestion, the cord should be cut and a little blood allowed to escape. If, on the contrary, it is pale and relaxed, in a state of apnea from muscular inability to respire, the ligature should be applied. In either case artificial respiration should at once be employed, for the longer respiratory action is deferred the greater the danger. Mucus should be cleaned from the mouth and nose, and the child placed in a bowl of water at a temperature of 105° F. The head should be supported by the nurse while the physician makes use of Sylvester's method of artificial respiration. Violence in pressing the arms against the chest should be avoided, and I am of the opinion that no effort should be made to force air into the child's lungs by blowing with the mouth directly or by means of a catheter. More harm than benefit is done by this procedure. I have given up all other methods for artificial respiration for Sylvester's. It is occasionally beneficial to hold the child up by the legs to favor escape of fluids from the respiratory tract and assist the cerebral circulation at the same time. From

time to time cold water should be sprinkled on the face and the buttocks spanked. Infants thus restored are to be watched constantly for several days ; many die from lack of subsequent attention. Hot-water bags should be kept by them, and a general bath should not be allowed for some days ; the danger is that of pulmonary atelectasis. After the vernix caseosa has been removed by the application of lard, with the infant enveloped in a woollen cloth on the lap of the nurse, the first bath should be given, with water at a temperature of 100°. Many nurses often ignore the importance of having the room sufficiently warm when bathing the new born babe. It is difficult to have it too warm, while the reverse is very easy. The tub bath should not be given until the cord drops off. Afterward the child should be bathed daily (unless temporarily contra-indicated) until the age of 6 months. The temperature of the bath should not be less than 98.5° F., exception to be made in the case of robust infants, when a lower temperature will be indicated in hot weather. Pure castile soap is to be preferred to the various scented soaps in the market. The flannel binder or "belly band" should be applied, extending from axilla to pelvis. It should be sufficiently loose not to interfere with respiratory movements. It holds the dressed cord, which is pointed upward. The general style of dress of the child is the mother's prerogative ; the physician, however, must insist that the clothes be warm and loose. In six or eight hours after birth the child should be put to the breast. This should be done for the benefit of both mother and child. It causes decided contraction of the womb, gives natural stimulation to the breasts, gives practice to the child in the sucking process, besides affording, very early, colostrum, the first natural food for the infant. This should be done approximately every two hours until the flow of milk is established, when a longer interval may intervene during the night so as not to disturb the sleep of the mother. After two or three weeks the intervals should be extended, according to the age of the child. As a rule milk is not secreted before the end of the third day. Until then nothing more than an ordinary teaspoonful of warm water slightly sweetened should be allowed. Unless positively forbidden, most nurses will insist upon giving artificial food, especially if the child cries frequently. A few drops of sweet milk may be added to the water to satisfy mother and nurse. Tea and medicines should, unless ordered by the physician, be absolutely forbidden during this period. Within the past

week an illustration of what an ignorant nurse may do in this line, to the detriment of the infant, was brought to my notice. An infant 3 days old was given three drops of castor oil with five of whiskey, to relieve supposed colic with constipation. Within three hours the infant was prostrated by having four or five stools of blood and mucus. I was surprised at the results from such medication, but was assured by both nurse and mother that no more than the quantity stated was given. In the early days of life it is rarely necessary to use anything more than a small castile-soap suppository to correct constipation. It is rare indeed for the colostrum to fail to cause three or four movements in twenty-four hours. In giving the child the right breast it is often best to place it on its right side under the right arm of the mother, on account of the weight of the liver. For the same reason the child is more comfortable when placed upon its right side in crib or basket, not forgetting, however, to occasionally turn it upon the left side, especially if feeble or inclined to sleep for a longer time than usual. The child's mouth should be cleansed after each nursing with a solution of borax and water, and the mother's nipples with the same solution. Fresh air is very beneficial, and in summer the child may be sent out in its carriage by the end of the second week.

Infant Dietetics.—Of all the subjects requiring the attention of the physician in the general management of infants, perhaps none equals in importance the food question. This fact is being generally recognized to-day by the profession. It is a prominent topic in all the recent books devoted to pediatrics and in the discussions of pediatric societies. This is as it should be. There is need of great improvement on our past accomplishments in this direction. In estimating the causes of the great mortality among infants the subject of proper feeding ranks first. I believe many more lives are lost from this cause than from congenital defects or from the diseases in great measure peculiar to infants. In giving my views on this extensive subject the scope of this paper will allow only a brief statement on any single point. What I have to say is based upon many years of experience in the management of infants, and will at least be practical. Comparatively little thought would be required of us concerning infant feeding if all mothers could nurse their offspring. It is only when this is impossible and a substitute for the natural food of the babe must be found that our troubles begin. That the time will ever come when we

shall be able to devise a perfect substitute for mother's milk no one who appreciates what this implies can believe. This being true, the responsibility of advising a mother to deprive the child of its natural food cannot be lightly assumed by any physician. The conditions requiring it must be positive, and it is a duty the physician owes new-born, helpless humanity to dissuade mothers from depriving their infants, for trivial reasons, of their rights or chance of life. In reference to wet-nurses much can be said *pro* and *con*. In certain European countries it is customary in high life to provide wet-nurses, in all respects suitable, in anticipation of the birth of the child. With us, however, it is usually a very difficult matter, and as a rule the presence of a wet-nurse proves well-nigh a calamity to any household. Personally I have met just enough exceptions to establish the rule. We depend chiefly upon our foreign women for wet-nurses, and rarely get one from the better classes.

What substitute shall be provided for the babe deprived of the breast? Unquestionably cow's milk is what we must depend upon. There are but few men in the profession who will dispute this. There is, however, a great diversity of opinion as to the methods of modifying the milk to suit the digestion of the infant. Of all the artificial foods for infants on the market there are but few that have not milk for a basis. It is either incorporated with the preparation or ordered to be added. These, with but few exceptions, are dangerous delusions, and have been the means of destroying many lives, in spite of the fact that most of these proprietary foods will satisfy and be suitable for certain infants. Physicians have unfortunately aided commercial gentlemen in making large fortunes by the sale of their much-advertised destroyers of infant life. In considering the subject of artificial food the question of quantity is almost as important as that of quality. As a rule more infants are injured by overfeeding and irregular feeding than by getting too little food. There are few physicians who are not acquainted with the comparative analysis of mother's and cow's milk, the chief difference being the excess, in cow's milk, of albuminoids, chiefly casein, and the excess of sugar in mother's milk. It is also equally well known that the casein of cow's milk differs from that of mother's milk in physical properties, rendering it difficult for infants to digest. There are, indeed, few infants capable of digesting cow's milk unmodified, no matter how pure. In addition to these ever-existing condi-

tions demanding attention, it is known that milk forms a most excellent culture medium for pathogenic germs, and that pathogenic bacteria are the cause of many of the digestive ailments of infants. It follows from these facts that no one factor of this difficult problem can be slighted. If so, its solution will be a failure. To-day some of the brightest minds in the profession are working at the problem, and the object is worthy of the effort. Among these workers Rotch, of Boston, stands first. His efforts have been painstaking and elaborate to a marvellous degree, and his Gordon-Walker laboratories are now on trial in several of our Eastern cities. It is yet too early to determine how practical they may prove, although most favorable results have been reported. If found practical, especially for the masses, the matter of expense should not interfere with the establishment of such laboratories in every town.

As yet my own experience in the use of fresh cow's milk has not met with flattering success, although I have given this department of my work far more than the average attention and study. The digestive power of each baby is a law unto itself and requires distinct consideration. This is equally true as regards the capacity of its stomach. We cannot always follow the rule given for feeding based upon the weight and age of the infant. It is just here I have seen many errors. One must be prepared to find his favorite formula a failure at any time, and not persist in his efforts to convert an infant's stomach to his theory: such efforts are very efficient in transforming infants into angels. One must be prepared to act promptly and make whatever change suggests itself before serious damage has been done. If pasteurized milk proves unsuited in a given case, peptogenic milk food may be needed, the napkins often affording valuable suggestions as to changes required to be made in the various constituents of the milk. One should never expect to improve milk the least spoiled by pasteurizing or predigesting it. As it is usually the casein of cow's milk which causes trouble, this must at times be reduced temporarily to a minimum, giving a combination of cream, white of egg, and barley water, or, what I often prefer, whey in place of the barley water. A return to the use of the casein can be made by degrees. This simple procedure has served me well many times and rectified digestive troubles of serious aspect without the aid of medicine. There are times when abstinence from all food for twenty-four hours, giving water only, is the judicious course to follow.

Notwithstanding the prejudice which is entertained by so many pediatricists against condensed milk, I am obliged to confess that my own experience does not justify this condemnation. Within the first two or three months of life it will agree with many babies. It is sterilized by the process of condensation, and the physical characteristics of the casein are so changed as to make it resemble the casein of mother's milk more closely than that of fresh cow's milk. It is therefore more digestible. The objection raised against the cane sugar with which it is sweetened and preserved I consider theoretical. Practically we find cane sugar a good substitute for sugar of milk. I am satisfied that the long bill of complaints presented against condensed milk is due more to the careless manner in which it is given to infants than to inherent faults in the preparation. In private practice I have been very successful in raising babies on condensed milk when under the care of intelligent, experienced nurses. They have not developed rickets, nor have they been overfat babies, succumbing to the first attack of disease. I believe that it is necessary to add fresh cream to every bottle of the milk, the amount to be determined by the physician. Reliance should not be placed upon purchased cream, but it should be taken from the fresh milk by the nurse. At this time I have a number of infants doing well, in spite of the hot weather, on condensed milk. Some of them, who are about to give up the bottle for other food, have had nothing but condensed milk since birth. If it is found feasible I believe it best to put these babies on fresh cow's milk not later than the fifth or sixth month. If, however, efforts in this direction fail, the addition of cream or occasional substitution of fresh meat juice in proper quantity will justify one in continuing the condensed milk as long as milk food may be required. My experience with condensed milk has been chiefly confined to the "Eagle Brand." It should be purchased from some grocer doing a large business rather than from the druggist, in order to assure its freshness.

In conclusion I wish it clearly understood that the favorable results I have had in the use of condensed milk have been due to constant watchfulness on the part of nurse and physician in every case. In the orphan asylum under my charge the results have been quite different.

467 PROSPECT STREET.

CAREFUL CASE-RECORDING AS A FACTOR IN
EXACT DIAGNOSIS AND AN AID TO RATIONAL TREATMENT.¹

BY

H. G. WETHERILL, M.D.,

Professor of Gynecology, University of Denver; formerly Gynecologist to St. Francis' Hospital; Consulting Surgeon to Mercer Hospital, Trenton, N. J.;
Denver, Col.

THERE can be little difference of opinion among physicians as to the necessity and convenience of a careful record of cases in most lines of medical and surgical work. The many and great ends to be so attained have often been expounded, and it is my purpose in this paper to again impress the necessity for the record of cases, considered from a standpoint of diagnosis and rational treatment, and to make you acquainted with a system which in my hands makes the work more satisfactory and much less laborious than it has been heretofore under the "case book" method. That records of cases are not made as they should be among all classes of practitioners, and even in hospitals, will be generally admitted; but when one considers for a moment the vast amount of work that the keeping of anything like a full record of cases means to a busy physician, he is disposed to excuse the neglect.

Diagnosis, according to Gould's latest Medical Dictionary, is "the distinguishing, fixation, or interpretation of a disease from its symptoms." This definition is insufficient and inadequate in that it by no means covers the ground. Diagnosis from symptoms alone must of necessity be often erroneous, as it bases an opinion on the least reliable of the data available for the purpose, leaving out of consideration the family history, the previous history of the patient, and numerous other important points. Subjective symptoms must often be disregarded. A carefully taken history of all the available facts which bear upon a case prevents a "snap diagnosis," and of course "snap treatment." A diagnosis at sight is brilliant, but the great probability of a mistake which may cost a human life detracts from the effect. Correct diagnosis is rarely easy, and often impossible even with all the available facts at hand. It is the

¹ Read at the meeting of the Colorado State Society, held June 16th, 17th, 18th, 1896, at Denver, Col.

corner stone and chief foundation upon which treatment is based, and cannot be too carefully considered or too elaborately gone into. The great success of modern surgery is as much due to a better understanding of the conditions we treat as to the use of antiseptics. The diagnosis of appendicitis and that of ectopic pregnancy have saved hundreds of lives since the study of the details of these diseases has made diagnosis possible. For my own part, I regret nothing in my whole professional career as I do the cases in which a hasty diagnosis has led me to treat a patient erroneously or do an improper operation. If I felt that I alone had had this experience it would drive me out of the practice of my profession. The law requires a physician to "exercise only *ordinary* care and skill" in his work; it would be unreasonable to ask him to be extraordinary, infallible, or superhuman. So long, then, as physicians and surgeons are only human beings they will be liable to error, but not on this account excusable from the consequences of avoidable error or the failure to exercise "ordinary care and skill."

All available data which may bear on a case should be before one for consideration as a whole, previous to a final diagnosis, provided the nature of the case permits the delay necessitated. More than once have I known the failure to have a full and complete history of a case lead to serious error, and the fault was often a failure to develop the facts which bore upon the etiology. Symptoms are usually fully elicited, but are often misleading and are not to be given too great weight in forming an opinion. Family history, personal history, age, occupation, environment, predisposition, exposure to contagion, accidents, miscarriages, work, worry, temperance, sexual irregularities, and the functional regularity of all the organs under ordinary conditions must be noted. These, and a host of other points, should be considered with the symptoms, and an effort made to get at the truth and eliminate the unimportant and misleading features.

In regard to treatment it is enough to say that it is in every instance secondary to, and must be based upon, the diagnosis; if the diagnosis is at fault the treatment will be misapplied and in all probability injurious rather than beneficial. The good which may accrue to a patient in after-years from the record of a former illness or operation is self-evident. Even should the case be in the hands of the same physician he will have forgotten or overlooked some of its features; and should

another have the management of the case, or the patient be in some other hospital, the record will be invaluable. Such records may even be of use to the second, third, or fourth generation, in that they may fix a family predisposition.

The great bar to accurate history-taking is the extra work it entails. The way to make any kind of drudgery easier is to so systematize and simplify it as to have it, to a degree at least, take care of itself. The plan which I have adopted for taking the histories of my patients is not new in any of its essential features, having been in use in various forms and for different kinds of work for many years; but the system, as I have adapted it to my special needs, is convenient and satisfactory to a marked degree. It combines the "card catalogue" and an outline diagram for the sketching-in of those pathological conditions and malpositions of the organs with which my work has to do. The advantages of the "card catalogue" over the case book are many. It is less bulky and cumbersome on the desk, more readily referred to, and better for filing away when the case is done with. It affords ample room for all records, can be easily replaced by a new sheet if any blot or error has been made, and by the facility of its operations it tempts to fuller and better work. In hospital practice and private cases out of the office it can be kept on the temperature-chart board for daily reference and the making of additional notes, so serving to refresh the memory of the surgeon at each visit and being ever ready for new entries. It is filed alphabetically. The name of the patient and that of the disease diagnosed are at the top of the sheet, so the filing may be done by the name of either, depending upon the use to be made of it, so facilitating grouping of cases and the compilation of statistics.

The use of an outline drawing, to be filled in as the case requires, is also an old idea which has been applied to many lines of special work, including gynecology. This free-hand work has long been a feature of the histories of Howard Kelly's cases, a place being reserved in his book for the drawing. Few, however, have his dexterity in free-hand drawing, and I cannot help believing that, even if they had, the accuracy and relative position of the parts would be improved by a good outline basis. For my sheet three outlines were made—the first a median sagittal section of the female pelvis, with the organs in their normal relative positions; the second, a median cross-section of the pelvis; and the third, one showing the abdominal regions. The first cut can be used to show antero-posterior deviations

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Name _____ Diagnosis _____

Residence _____

Date _____ 1890

Age _____ S. M. W. Occupation _____

Referred _____

Patient of Dr. _____ of _____

Para _____ Last labor _____

Inst. delivery _____ Recovery _____

Miscarriages _____ Recovery _____ Accidental or induced _____

Coitus _____ Conception avoided by _____

Menstruation _____

Leucorrhea _____

Past health _____

Family history _____

Symptoms _____

Development of _____

General appearance _____

Appetite and digestion _____ Bowels _____

EXAMINATIONS

Vag. outlet _____

Rectum and urethra _____

Vagina _____

Cervix _____

Uterus _____

Tubes and ovaries _____

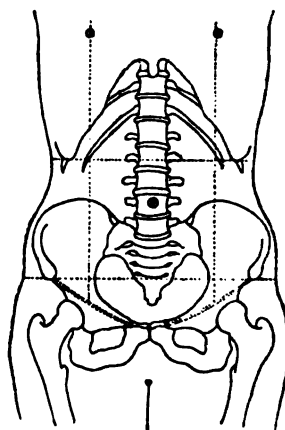
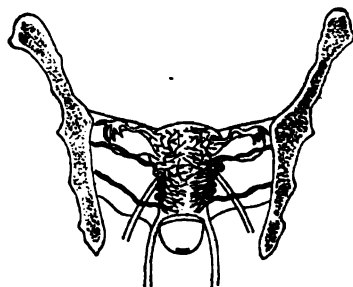
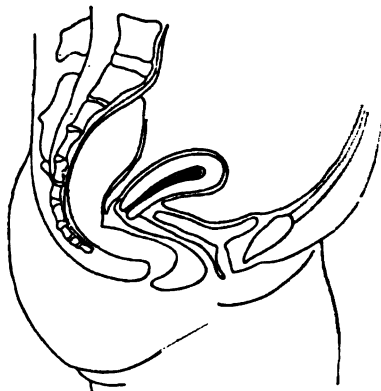
Appendix vermiformis _____

Kidneys _____ Urine _____

Growths or tumors _____

Treatment _____

(Over)



from the normal position of the uterus, prolapses and lacerations of the vagina and rectum, inflammations of the bladder, uterine canal, or vagina. The second is adapted to tubal and ovarian diseases and displacements, as well as those lateral deflections of the uterus the importance of which has been so recently pointed out by that careful observer, Edward J. Ill. Cervical lacerations and erosions may also be shown here, as well as the position of intrapelvic neoplasms and masses of any kind, including their relation to the viscera. The third may be made to picture the extent of abdominal tumors, and the position of displaced organs (as movable kidney), and serve to note the progress and development of growths (increase or decrease in size).

As to the advantages of diagrams and pictures in scientific work of this kind there can be little doubt. The modern medical-book publisher understands this thoroughly, and to the introduction of this feature is due the usefulness of some of the "systems" so lately crowded into the market. They are too voluminous and numerous to be read and digested by any active practitioner, and, were it not for the illustrations, few would ever get any idea of their contents, excepting as they were used as reference works.

One takes in at a glance the features of pictures, so for the purpose of case-recording they are invaluable, as they convey at once an idea of the whole case and refresh one's memory as to its details. If desired, red ink or pencil may be used to portray a condition of inflammation, and blue or black all others. The sheet is eleven and a half inches wide by nine inches deep, and is closely ruled on both sides.¹ This size was chosen for the purpose of having it fit snugly into the ordinary file to be had in the stores, but can be varied to fit any space. It is large enough for all ordinary work, but is easily supplemented by additional sheets if they are needed. In addition to this sheet I have had one made which contains the cuts only, but this will be particularly useful for enclosing to any physician to whom one may wish to report a case, so giving a clear idea of the exact conditions as they have been diagnosed, as in making a report of a referred case to the family physician. Changes in the size, position, and relations may also be noted on these extra cards and attached to the original history sheet. Two points

¹ To make it fit the page of the JOURNAL the sheet as shown has been contracted to seven by four and a half inches, but the cuts are reproduced at their original size.

on this sheet are details not usually noted in history blanks, and sometimes not inquired into, while in my experience there are no two things which have a closer relation to the diseases of the genital organs of women or that will throw more light on their causes and effects. I allude to the query as to the means used to prevent conception and the question about coitus. I need hardly go into the details of the consideration of this matter, but should like to recall to your minds the serious genital and nervous conditions for which some of the means for preventing conception are directly responsible, and to suggest that no amount of delicacy or consideration for our patients should influence us to neglect the obvious duty of finding out about this matter and advising the often innocent victim of the risks she runs. The symptomatology and sensations of coitus may often be a valuable guide to correct diagnosis ; besides being a very interesting and noteworthy point in connection with the large number of oöphorectomies done the past few years, a correct history of the subsequent and consequent course of these cases is necessary to a proper understanding of the results of our work, and a valuable point in the consideration of what may be best for the patient of the future.

Sneer as we may about empiricism and empirical practices, the fact remains that the experiences of the past are, after all, an indispensable and invaluable guide to the progress of the future ; and while we theorize from a scientific basis, we must not lose sight of the fact that it is results we are seeking, and that those means which have led to success in the past will serve us well in time to come. Knowledge of broad general principles we must have to start with, but it will be worse than useless if we lack the ability to apply it to the eccentricities and exigencies of the particular case under consideration. To accomplish this all the facts of the history of the case in hand must be carefully gathered and recorded for consideration, as well as stored away for future reference. To fill these requirements, and to do this work with the least possible trouble and labor, this sheet has been designed.

212 MCPHEE BUILDING.

THE BICYCLE FOR WOMEN.¹

BY

JAMES F. PRENDERGAST, M.D.,
Philadelphia, Pa.

Two years ago, in an article on Physical Culture, I stated that I could see no valid reasons why women should not indulge in bicycle-riding as an exercise. Since that time I have given the subject careful consideration from every point of view—the hygienic, physical, and, I might say also, the moral—and my conclusion is that, for physical exercise for both men and women, the bicycle is one of the greatest inventions of the nineteenth century. It is a fad at the present time that has grown to enormous proportions, and will be productive of great value to the present generation, while in the next its benefits will be seen in the form of better health, finer physical development, and more stable nervous systems. The reasons for the widespread adoption of the bicycle are numerous. The cheapness of the pastime, its general adaptability to both sexes and to all ages, the beneficial effects of riding in the open air, the ease and exhilaration of rapid movement, the swift change of scenery, and the companionship of others interested in the same pursuit, all tend to make it a very enjoyable form of both physical and mental exercise.

Exercise is a necessity for continued good health and mental vigor. It is almost universally conceded that any form of exercise that will bring women and girls into the open air must be of great value. They have been so tied down and hampered by social duties and conventionalities, and have been dressing for generations so unhygienically, regardless of health or comfort, that many of them have become mere bundles of nerve fibres, ready to explode on the slightest provocation. To these the bicycle will prove a blessing.

Those who do not ride or who have not given the matter thought imagine that bicycling exercises the leg muscles only. In this they are greatly mistaken. All the muscles of the lower extremity (those of the pelvic floor, the back, and the abdo-

¹Read before the Section on Gynecology, College of Physicians of Philadelphia, May 21st, 1896.

men) are brought into play: the muscles of the back in maintaining an erect posture and in balancing the wheel—to sit erect for two hours without aid being no slight amount of work for the back muscles; the abdominal muscles in hill-climbing and hard pushing, unless interfered with by tight corsets; the muscles of the arms in guiding the wheel and in helping carry the weight of the body in crossing rough spots on the road, car tracks, etc.

The heart and lungs are benefited by the increase of the force of the circulation and by the deep inspirations. We have thus an increase in the supply of oxygen and in the elimination of carbonic acid and other toxins—poisons that accumulate in the system from lack of exercise.

It has been demonstrated by experiment that a person walking at the rate of four miles per hour takes in five times as much air as when at perfect rest or recumbent. In other words, under ordinary conditions we take in four hundred and eighty cubic inches of air per minute, whereas during a walk of four miles an hour we take in twenty four hundred cubic inches. Applying this to bicycling, we can appreciate the value of exercise in the open air. The action of the heart is increased in force and frequency, and the flow of blood through all parts of the body, including the heart itself, is augmented. These two factors, the increase in the action of the respiration and circulation, explain the improvement in a local or functional trouble by such exercise as bicycling. The increased circulation is not to be passed over lightly when dealing with nervous women, as it means better nutrition to starved nerves. The muscles grow larger, firmer, and respond more readily to volition. The term exercise as commonly used expresses only the action of the voluntary muscles. Dubois-Raymond, in "The Physiology of Exercise," says: "It is easy to show the error of this view and to demonstrate that exercises demanding composite movements are much more exercises of the central nervous system, of the brain and spinal marrow." Every action of the body as a motive apparatus depends, not less, but more upon the proper co-operation of the muscles than upon the force of their contraction. In bicycle-riding the muscles must begin to work in the proper order, and the energy of each must increase, halt, and diminish according to a certain law, so that the result shall be the proper position on the wheel in order to maintain one's balance and to exert the force in the proper direction. Thus, bicycling is not mere muscle gymnastics, but

also, to a high degree, nerve gymnastics, if for brevity we may apply the term nerves to the whole nervous system.

Bicycling as a form of exercise is more beneficial than horse-back-riding, for several reasons:

1. *Accessibility* —Hundreds can ride a wheel where one can ride a horse.

2. *Utility*.—It is a better form of exercise. The side saddle, as generally used, has a tendency to increase lateral curvature of the spine and exercises one side of the body more than the other; the shock of a trotting gait excludes many from that form of exercise who can ride a wheel with perfect comfort.

3. The *clothing*, as fashion dictates it for the saddle, is entirely too tight to allow the benefit which might be obtained from the exercise. The only hygienic position on horseback is astride, and until fashion or common sense sanctions this women had better ride the bicycle. For bicycling the clothing should not in any way interfere with free play of the muscles, nor constrict the chest, thus preventing full expansion of the lungs. Corsets should be short and loose, or they greatly interfere with the circulation and prevent hill climbing. Wool should be worn next the skin, to absorb perspiration and prevent chilling when the rider is resting. In a word, the clothing should be perfectly comfortable.

Some have compared bicycling to running a sewing machine. This is an absurd charge. The treadle of a sewing machine is run by the muscles from the knee down, and is a short up-and-down stroke of both feet at the same time, and is very tiresome. The pedalling of the bicycle brings into play all the muscles of the legs, and is a much wider sweep in slower time, while the muscles are practically at rest during a portion of the stroke. Bicycling is a pleasant recreation and mental stimulus enjoyed in the open air. The sewing machine is used in a room with a bad atmosphere while wearing unhygienic clothing; the eyes are following a seam only twelve inches distant, producing eye strain and other nervous symptoms, simply from the extreme monotony and drudgery of the work. The sewing machine causes stasis of blood in the lower limbs and pelvic organs because of the bent posture. Bicycling demands deep inspiration; operating the sewing machine does not.

As to the machine itself. For women it should run very easily and not be geared too high, as heightened gear requires increased power for propulsion, and this applies especially to hill-climbing. The gear equals the diameter of a circle whose

circumference represents the distance advanced during one revolution of the pedals. Thus, a bicycle geared to sixty-three inches will cover the same space of ground with one turn of the pedals as one revolution of a wheel sixty-three inches in diameter. I am satisfied that dealers are offering wheels geared entirely too high for beginners. A wheel geared to fifty-three to fifty-six inches is high enough to use the first season, unless the rider is accustomed to considerable exercise. A higher gear means very hard pushing on up-grades or hill-climbing, which may lead to strains and exhaustion; it is also very discouraging to beginners on account of the hard work. It must be understood that the wheel should fit the rider as to height of frame, length of stroke, adjustment of handle bars and saddle, not only for the comfort of the rider, but in order to obtain the best results from a hygienic point of view. In other words, the rider should have an intelligent knowledge of the machine and a realization of the fact that rider and wheel should work as a unit.

The Opinions of Others.—Fearing that my enthusiasm for the bicycle and love of out-of-door exercises and sports might have biassed my judgment, and that I had also exaggerated the dangers of the saddle, I sent out letters to twenty-five physicians,¹ ten of whom were women. and the majority gynecologists. I received twenty replies. I asked for a brief reply to the following questions :

1. Have you seen any bad effects from bicycle-riding ?
2. Do you consider it a good exercise for women and girls ?
3. Have you seen any troubles arising from saddle pressure ?

To the first question all but one stated that they had never seen any bad effects from the exercise, except from its gross abuse, carelessness, too long rides, and lack of care when overheated. One reports two cases of aggravated leucorrhea and one case of aggravated functional heart disturbance. Another reports a case of acute ovaritis, probably caused by two long rides on successive days ; the rider, however, rested by sitting upon the ground near a stream. Another states that he had seen bad effects in women with weak hearts or pelvic disease.

To the second question—Do you consider it a good exercise

¹ Drs. S. Weir Mitchell, Charles B. Penrose, J. M. Baldy, C. Goodell, William Pepper, J. W. White, H. C. Wood, H. A. Hare, W. W. Keen, Edward Martin, I. P. Strittmatter, Barton Cooke Hirst, J. M. Taylor, Elizabeth L. Peck, Emily G. Hunt, Anna P. Sharpless, Lucy N. Tappan, Clara Marshall, Elizabeth W. Griscom.

for women and girls?—every reply was favorable. Some placed limitations on it, such as the existence of inflammation of pelvic organs. One says: "I have recommended it to some of my patients, even those who were suffering from disease of the ovaries and displacements of the uterus." Another says: "Every neurasthenic woman should own and ride a wheel, under proper restrictions as to distance and speed, and the length of time in the saddle. I believe it to be the greatest therapeutic agent introduced for years, especially for this class of patients." Another states "that it is really too soon to judge of its benefits. The next generation will be in a better position to answer." Another woman-physician says: "Yes, for healthy persons and in moderation. The fact that it takes some women from a sedentary life into the open air seems to me its special claim to usefulness."

To the question, Have you seen any troubles arising from saddle pressure? seven answer no. Others report serious ulceration of the vulva and perineum in a syphilitic subject, tumefaction of the vulva, vulvar bruising, frequency and urgency of micturition and ardor urinæ, soreness and bruising of the perineum. Another replies that the saddle pressing on the perineum of either male or female is bad. The Christy and similar saddles do away with this fault. One physician stated to me personally that he had a case which required stitching, the rider having been thrown violently forward against the peak of the saddle. One reply stated that no saddle is fit for use if it fails to support the body on the ischial tuberosities. Chadwick reports a case of irritation of the vulva caused by pressure of the point of the saddle in front, and a case with leucorrhœa whose general health had been so greatly benefited that he did not forbid bicycling. His conclusion is that bicycling is a most desirable form of exercise and recreation for women.

The Saddle.—As it is almost universally accepted by physicians that bicycling is an excellent form of physical exercise for women and girls, under proper conditions of dress, posture, and care that it is not overdone, the question arises, Are there any real dangers aside from over-exertion and the accidents incident to the pastime? The real danger lies in using badly constructed and ill-fitting saddles. This especially applies to women. The trouble is, and has been, that the manufacturers of saddles have, up to the present year, been catering to the racing man and neglecting that largely increasing and impor-

tant class who ride for pleasure, and have been offering the same style of saddle to women as to men—that is, the old-fashioned suspension saddle, over which the rider is hung astride on the same principle as riding a rail. The ordinary suspension saddle is wholly unsuited for women ; it is too narrow to carry the rider's weight properly, and instead of the rider resting on the tuberosities of the ischia the weight is carried on the perineum ; the pommel or peak in front is too high and the rider is in danger of bruising the vulva in crossing car tracks and in going over rough spots on the road. Furthermore, the ordinary saddle becomes narrower with use, sags in the centre, thereby exaggerating the already too high peak in front, and, being too narrow behind, throws the rider's weight forward, not only bringing pressure on the perineum, but also giving rise at times to friction and heating of the parts where it is very undesirable and may lead to dangerous practices. That there is such a danger in riding a badly constructed saddle the writer has been able to verify in two or three cases, but that it exists to the extent thought by the laity is absolutely untrue. These bad effects are positively precluded by the use of such a saddle as the Christy.

The ideal saddle has not as yet been produced. Dealers and riding teachers in general are very ignorant of the wants of women riders, and have no definite ideas as to their requirements or as to what a saddle should be like, and will recommend the most abominable of saddles as ideals of comfort, simply to make a sale. The ideal saddle should be broad enough to sit upon with the weight carried on the tuberosities of the ischia ; it must not produce pressure on the perineum or have a high peak to injure the vulva ; it should not chafe and produce saddle soreness ; it should be cool, and springy enough to take up shock and vibration not so disposed of by the pneumatic tire. Owing to the objections to the ordinary saddle that have been raised by physicians and riders, a number of new styles are being offered as being everything that is desirable in this line, but the majority are faulty in some vital point. The Christy saddle is at present about the best for women riders. It is broad enough to carry the weight on the tuberosities of the ischia ; the rider sits on two thick pads which prevent pressure on the perineum or more delicate parts ; and the saddle has no high peak in front. When properly adjusted on the saddle post, it is almost impossible for an injury to result from its use, as I have personally tested it over some of the worst pavements in this city,

and had one trying experience coasting, but have never suffered in the least from saddle soreness.

Townsend¹ states "that he received eighteen replies from female physicians, and all but one stated decidedly that they considered bicycling of value to women. None had seen any harm except from excessive use or bad saddles." The question, Would you advise it in any form of uterine disease? was answered in the negative by two only. The remainder had recommended it, or would do so in suitable cases. The majority limited the exercise to chronic cases, especially where the circulation was sluggish and the muscular system relaxed. A number of cases were reported as benefited by bicycle exercise. In one case of dysmenorrhea requiring rest in bed, systematic use of the wheel caused great improvement in general health with fairly comfortable menstruation. Several retroversions, one with enlarged and prolapsed uterus, were greatly benefited by wheeling. One young married woman, who had retroflexion of the uterus and prolapsed ovary with adhesions, rode all summer and was cured. Several speak of the beneficial effects of the bicycle where walking was difficult or impossible. These favorable criticisms were not obtained from enthusiasts, as only one had used a wheel herself. Townsend himself says "that as a general exercise bicycling is not harmful to the pelvic organs, even when these are affected, unless the disease is so acute that any exercise as great as this is contraindicated."

Dickinson, in this JOURNAL for January, 1895, says: "Under proper conditions of costume and posture, with care that the exercise be gradually increased and properly graded for the individual case, and where there is no acute inflammatory condition to contraindicate it, bicycling will probably show itself capable of large results as an agent in curing pelvic disorders, since it is one of the few exercises which attract women."

Garches-Sarrante read a paper on "The Bicycle" before the Society of Medicine, Paris, and stated that she had been riding for three years with great benefit to her health; she recommends moderate riding in chronic troubles. In any case it is less fatiguing than standing or walking. It can replace with advantage the Swedish method of massage. She also draws a vivid picture of the moral rôle of the bicycle, the only physical exercise that husband and wife can enjoy together.

Galbraith, in her work on "Physical Culture for Women,"

¹ Boston Medical and Surgical Journal, June 13th, 1895.

says : "In the light of experience it is believed that for healthy individuals bicycling is one of the most excellent forms of exercise for maintaining health, retarding disease, and strengthening the constitution, and in many forms of disease, when used cautiously and under medical supervision, it will often be found of an inestimable advantage."

A certain nervous condition, said to result from excessive use of the bicycle, has been termed the "vibratory habit." Benjamin Ward Richardson has presented the subject before the Medical Society of London and evidently considers it a disease. I have been unable to get the full text of his paper. This "vibratory habit" can be almost eliminated if riders will sit on their saddles, and not on their wrists and arms by doubling up over the handle bars. Another fault which causes vibration and shock is blowing up the tires too hard. Pneumatic tires were intended to do away with just this condition, and should not be blown up so hard that they are not springy.

Frederick Treves, an authority on physical culture, strongly objects to bicycling for women and girls, on account of pressure and friction upon the pudendal region; but with improved saddles that objection does not hold good. He says that the exercise appears to have a very beneficial effect in relieving chronic constipation and is advantageous to dyspeptics and in functional diseases of the liver.

Summary.—We have in the bicycle an agent which will accomplish an enormous amount of good for women. It is notorious that women after a certain age will not take sufficient exercise in the open air, and to order them to do so for the mere sake of exercise is a waste of time, as not one in a hundred has the courage to keep it up. What women who are tied down by household cares, social duties, and occupied in sedentary pursuits need is exercise with some mental stimulus or recreation. The bicycle answers perfectly this condition, and peevish, overwrought, nervous women will find that exercise on the wheel in the sunlight and fresh air will invigorate their bodies, restore the appetite, bring ease, contentment, and elasticity to the mind, and enable them to better understand the wear and tear of mind and body to which our high-pressure methods of living subject them. As a therapeutic agent the bicycle has a very large range of usefulness. If used with discretion and ordinary common sense it will prove of value in a number of chronic conditions—namely, all chronic pelvic troubles, chronic heart disease (as bicycling closely resembles

mountain-climbing), dyspepsias, functional conditions of the liver, chronic constipation, and all functional troubles. This is brought about, not from any special effect of the exercise on certain organs, but because it is a pleasant, healthful form of exercise in the open air, and by exercising all the muscles and increasing the force of the circulation benefits special conditions. Personally I should consider it safe to allow the use of the wheel in any condition that permits of walking, providing hill-climbing is not attempted. Through the general use of the wheel by women we look for a reform in dress, more exercise in the open air, better muscular development, more stable nerves, easier labors, and healthier children.

3833 SPRING GARDEN STREET.

CORRESPONDENCE.

PAWLIK vs. KELLY: A QUESTION OF PRIORITY.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

DEAR SIR :—In THE AMERICAN JOURNAL OF OBSTETRICS, vol. xxxiii., No. 3, Prof. Kelly replies to the article of Prof. Rubeska in the same number and attempts to disprove the statements contained therein.

At the very beginning he expresses his regret that I, instead of entering the lists myself, leave my defence and that of my labors to my assistant. This view of Rubeska's article is not correct.

On perusing the successive publications of Prof. Kelly upon the new method of endoscopy of the female bladder I noticed with surprise that my name was not once mentioned in them. It was repugnant to me to enter a controversy, and I waited in the hope that Prof. Kelly would eventually give the true origin of this method. As this did not occur, I read my paper in Rome, expecting that the friendly hint it contained would suffice to remind Prof. Kelly of his duty to mention my name; I thought I had in this way acted correctly and professionally toward Prof. Kelly. But this expectation was in vain. Still I was averse to commence a controversy, particularly because it was likely to become very embarrassing, since Prof. Kelly,

by constantly suppressing my name, had cut off his every retreat, and hence the admission of the true state of the case could not be looked for from him. This is fully borne out by his above-mentioned reply to Prof. Rubeska's article

I was disgusted with the whole affair, and was about to leave it as it was, when I met Prof. Rubeska, who expressed his surprise at Prof. Kelly's behavior to me and stated that he was willing to publish what he knew of the matter. I accepted his offer, Prof. Rubeska having been a witness of my labors and his word was sure of being given full weight. What he has written is not the product of my inspiration, but his own work and testimony.

The points to be discussed have been presented by Prof. Rubeska in his article, namely :

1. "That there is no ureteral catheter of Kelly."
2. "That the so-called cystoscopy of Kelly is entirely and solely that of Prof. Pawlik."

The first point is quite correct. The one catheter illustrated by Prof. Kelly in his article entitled "The Ureteral Catheter"¹ is my original catheter, figured in Leiter's catalogue of the year 1883, in Collin's catalogue, and also in Le Dentu's book entitled "Affections chir. des Reins des Uretères et des Capsules surrénales," Paris, 1889. His second catheter, the picture of which appears in the article on "The Direct Examination of the Female Bladder,"² is my later model, illustrated in my paper "Ueber die Harnleitersondirung beim Weibe" (v. Langenbeck's *Archiv*, Bd. xxxiii., H. 3), in Pozzi, Le Dentu, Leiter, etc. Prof. Kelly's modification consists in his having four openings instead of one at the inner end of the catheter, and in a stopper provided with a small chain for the outer end. Any one may convince himself of this by comparing the illustrations here mentioned. Whether these modifications justify one to name the catheter after Prof. Kelly I leave to the judgment of the profession.

Prof. Kelly's objection to the long slit on my catheter, which he replaces by four small openings, that it frequently catches and cuts the mucous membrane, does not hold good for well-made instruments in which the edges of the slit are bent inward and hence cannot cut. That my catheter is based upon that of Simon is correct in so far as it is a thin tube, as is indeed every catheter; it is certain, however, that the difference between my

¹ AMERICAN JOURNAL OF OBSTETRICS, vol. xxv., No. 6, 1892.

² Id., vol. xxix., No. 1, 1894, p. 16.

catheter and that of Simon is much greater than that between that of Prof. Kelly and my own. But, aside from the catheter, I have also devised a method of my own of catheterizing the ureters which differs altogether from that of Simon, and thus, taken all in all, have produced something entirely new, which as such and in its details has the right to bear my name. This is not the case with Prof. Kelly.

Prof. Rubeska's second point is equally correct.

The method of endoscopy of the female bladder, based on the dilatation of the urethra, the introduction of a sufficiently large urethral speculum, filling the bladder with air in the knee-elbow position, and inspection of the interior of the organ by direct or reflected sunlight, has been used by me since 1886.

At first I employed the ordinary tubular urethral speculum of Simon. In the year 1887 I had a handle attached to it, so as to enable me to turn it more easily toward the orifice of the ureter, and examined the bladder by sunlight, with and without forehead reflector. Mr. Leiter, the instrument-maker of Vienna, was kind enough to place at my disposal an extract from his account books which confirms that this instrument was furnished to me on February 1st, 1887.

Sunlight not being always available in sufficient intensity, I subsequently examined the bladder by electric light, using a small lamp on a stem. Finally I combined the urethral speculum and the electric light in one instrument, as explained by me at Rome. In order to prevent the heating of the metallic instrument, it is connected with a cooling apparatus. This instrument was furnished to me by Mr. Leiter on May 12th, 1891. The greater portion of this process of development has been observed by Prof. Rubeska; for when I moved from Vienna to Prague in 1887 I examined invariably with Simon's speculum provided with a handle, by direct or reflected sunlight, and only in the course of time commenced to work with the electric light in addition.

Prof. Maydl, on visiting my clinic in 1891—that is, two years before Prof. Kelly made his “invention”—witnessed my method and was kind enough to confirm the fact, as follows:

“DEAR COLLEAGUE:—In compliance with your request I take pleasure in testifying that during my brief stay in Prague in May, 1891, you demonstrated to me at your clinic the direct illumination of the air-distended bladder, in the knee-elbow position, and I also distinctly recall the case presented (tuberculosis of the bladder). Even at that time I advised you not to delay

the publication of the matter, but you preferred to wait until the pictures obtained by the above-mentioned method could be fixed by photography.

"I remain, your sincere friend and colleague,

"PROF. MAYDL,

"*Director of the K. K. Surgical Clinic (Bohemia).*"

My priority in the inspection of the interior of the air-distended bladder, using the sun or the electric light as the source of illumination, is attested by Leiter, Maydl, and Rubeska, and therefore cannot be questioned.

In 1888 Prof. Kelly visited me for the first time, and by his request I showed him the free-hand catheterization of the ureters. In the following year Prof. Kelly repeated his visit to the clinic. He spoke of the free-hand catheterization of the ureters which he had practised at home, and asked me whether I could catheterize the ureters in every case. I truthfully replied in the negative, but added that for such cases I had another method. I then showed him my instruments for vesical endoscopy and gave an explanation of the method.

Prof. Kelly, however, denies this second visit altogether and thus also this communication. *He having acted in such a way, I can enter into no further explanation with Prof. Kelly; I have nothing more to say to him.*

For the members of the profession who take an interest in the matter I add the following. That this second visit of Prof. Kelly to my clinic really took place is confirmed by my then gynecological assistant, Dr. Vávra, who writes:

"DEAR PROFESSOR:—I willingly comply with your request to confirm that during the first year of my assistanceship, 1889, I made the acquaintance of Dr. H. Kelly, of Baltimore, who at the time visited the gynecological clinic alone, unaccompanied by any one. On that occasion you showed him your cystoscopic apparatus, urethral speculum with handle, and electric hand lamp, in their form at that time.

"Very respectfully yours,

"DR. VÁVRA.

"MAY 29TH, 1896."

My obstetrical assistant at that time, Dr. Slechta, writes as follows:

"The undersigned remembers most clearly the visit of

Dr. Howard Kelly, of Baltimore, to the gynecological clinic of Prof. Pawlik, in Prague, in the year 1889.

“DR. JOHANN SLECHTA,

“KOSTEL, May 20th, 1896. “*Formerly First Assistant Physician at the Obstetrical Clinic of Prof. Pawlik.*”

Besides, a former externe of my clinic bears witness:

“KOMOTAU, May 22d, 1896.

“DEAR SIR:—I hereby declare that I remember very well that Dr. Kelly, of Baltimore (America), visited the gynecological clinic in the year 1889, during the time when I was connected with it as externe.

“With great respect, your grateful pupil,

“DR. JOSEF POLLAK.”

The originals of all the documents cited in this reply I have forwarded to Prof. Fritsch with a copy of this article.

I need not enter upon the remaining contents of Prof. Kelly's article, as they are immaterial and serve merely for ornamentation. *The main declarations of Prof. Rubeska have my full indorsement; Prof. Kelly has weakened none of them.*

I do not doubt that Prof. Kelly has experimented in the direction of endoscopy of the bladder; but it is clear that he did not succeed until after his visit to Prague, after my communication. Dr. Clark, to whose testimony Prof. Kelly refers, says that the vesical speculum was made on May 4th, 1893; and Dr. Willy Meyer, who is likewise cited as a witness, states that Prof. Kelly had spoken to him about the new method of endoscopy of the female bladder on April 6th, 1893—that is, four years after Prof. Kelly's visit to my clinic.

It is certainly strange that Prof. Kelly should have forgotten the entire visit, but it is not a first occurrence. After the publication of Rubeska's article in THE AMERICAN JOURNAL OF OBSTETRICS, vol. xxxiii., No. 3, some American friends have called my attention to the following:

In the Proceedings of the Philadelphia County Medical Society, vol. ix., 1888, p. 39, appears a paper by Prof. Kelly under the title, “Rubber Cushions for Surgical Purposes.” It deals with an irrigation pad made of rubber, which serves for the convenient removal of large quantities of water used during operations. In the discussion of the paper Dr. J. Price said:

“The only matter about which any question exists, the only thing in controversy, is *whether Dr. H. A. Kelly has any*

claim whatever as the inventor or originator of the irrigation pad. Such claim he has not only set up here but elsewhere, without, I claim, a shadow of authority in fact. Introducing the instrument here, he has made it legitimate matter for discussion, not only as to the instrument, but the genuineness of its authorship. About five years ago I conceived the importance of an irrigation pad or cushion, and from a design of my own my friend, Dr. John Madison Taylor, made a drawing. The instrument, as drawn, was ordered through Kolbe. *Dr. H. A. Kelly saw it not only at the instrument store, but also at my office. He there examined it and we discussed its merits.* I here present a bill from the New York Rubber Company for making this operating cushion, dated January 7th, 1885."

To which Prof. Kelly replied:

"I am sorry that anything so unpleasant should have come before the Society, and I should not have brought up the matter had not the remarks in reference to it been made so publicly after the last meeting that I have been forced to defend myself. *I can only repeat that I have no recollection that Dr. Price ever spoke to me on this subject.*"

Here again Prof. Kelly had forgotten the visit to Dr. J. Price and everything that occurred at the time.

In his paper entitled "A New Method of Examination and Treatment of Diseases of the Rectum and Sigmoid Flexure"¹ he describes as his own invention the examination of the lowest portion of the intestine which becomes distended with air and can be inspected when a rectal speculum is introduced in the knee-elbow position. This method is said to have been described in America previous to 1880, some say by Burrall; but it is certain that it was practised by a countryman of Prof. Kelly's, Dr. Walter J. Otis, of Boston, and was published in 1887 simultaneously in English and German under the title, "Anatomical Researches in the Human Rectum and a New Method of Rectal Inspection," Leipsic, Veit & Co.; this edition also contains illustrations of rectal inspection in the knee-elbow position.

In Prof. Kelly's article there is not the slightest hint as to the originator of the idea.

In the same way, in his paper on "The Palpation of Normal Ovaries"² the name of the author of this method of examination is suppressed altogether.

¹ Annals of Surgery, April, 1895.

² THE AMERICAN JOURNAL OF OBSTETRICS, vol. xxiv., No. 2, 1891.

I may add, furthermore, that Prof. Kelly, in his papers entitled "The Direct Examination of the Female Bladder," etc.,¹ and "Introduction of Bougies into the Ureters preceding Hysterectomy,"² etc., speaks of hysterectomy while bougies are introduced at the same time into the ureters.

This method has been published by me in the *Internationale klinische Rundschau*, 1889, Nos. 26, 27, 29, under the title "Extirpation des Uterus und des Beckenzellgewebes," and also in the *Archives de Tocologie*, May, 1890, together with the history of three cases. In this instance likewise Prof. Kelly fails to mention my name.

I shall make no comments on these striking facts, but they indicate a deplorable disregard of the labor of others and the rights derived therefrom.

PROF. DR. PAWLIK.

PRAGUE, June, 1896.

A REPLY TO PROF. PAWLIK'S CLAIM TO THE DISCOVERY
OF MY METHOD OF EXAMINING THE BLADDER AND
CATHETERIZING THE URETERS IN WOMEN.

I am glad that Prof. Pawlik has now taken the manly course of making his attack upon me in person. My reply need be but brief, for his communication is merely a reiteration of the statements of his assistant, Prof. Rubeska, to which I have already given a full and satisfactory answer.³

The only fresh matter in Prof. Pawlik's paper is an effort to fix the date of my meeting him in 1889, a year later than its actual occurrence, and an attempt to prejudice the profession by dragging in extraneous matters.

Setting aside the trivialities of this controversy—such as the correct name attaching to the modifications of the Simon ureteral catheter—the one important question raised is that of my priority in the method of examining the female bladder, distended with air, through an open speculum.

Prof. Rubeska begins his paper⁴ by asserting that I learned this method of examination from Prof. Pawlik during a visit to

¹ THE AMERICAN JOURNAL OF OBSTETRICS, vol. xxix., No. 1, 1894.

² Bull. of the Johns Hopkins Hospital, Baltimore, vol. v., p. 17.

³ See THE AMERICAN JOURNAL OF OBSTETRICS, vol. xxxiii., No. 3, March, 1896, and Centralbl. f. Gynäkologie, May 9th, 1896.

⁴ See Centralbl. f. Gyn., January 25th, 1896, and THE AMERICAN JOURNAL OF OBSTETRICS, vol. xxxiii., No. 3, March, 1896.

his clinic in 1888. I was accompanied at that time by Dr. W. Constantine Goodell, of Philadelphia, who fully corroborates my answer that this statement is false.¹

Prof. Pawlik, in view of this fact, now abandons this claim and seeks to establish the date of my visit in 1889; he reports a conversation which is wholly imaginary, and to prove the circumstance of the visit at that time he brings forward several letters from his assistants. In answer to this I repeat that I did not even see Prof. Pawlik during that summer, and if I have had the pleasure of meeting his assistants it was not then. The unanimity with which these three gentlemen remember, seven years later, the date of the visit of one among many visitors is somewhat surprising to me; I could have held no conversation with them, in view of the fact that they speak neither English nor German—at least so subsequent visitors have been told. There seems to be a difference in this respect between the American and the Czech memory. I have asked six of my assistants at the Johns Hopkins Hospital whether they can recall the date of the visit of any one physician out of the hundreds who come to see us, and I find them all unable to do it, unless the visit was connected with some special event, such as the annual meeting of the American Medical Association or of the American Gynecological Society.

In Prof. Pawlik's attempt to discredit my statements, his reference to a discussion before the Philadelphia County Medical Society in 1888 is particularly unfortunate, for the judgment of the profession on that matter has long since and overwhelmingly been rendered in my favor.

If at any time I have not fully recognized the labors of other physicians in my own work and writings, it has been through oversight and without intention, and I shall always be most happy to make good any such error when my attention is called to it.

Prof. Pawlik supports his claim to original investigation in the field of vesical cystoscopy by a letter from Prof. Maydl. I have never until recently questioned Prof. Pawlik's original work; indeed, I could not have done so had I wanted to, because on his own statement he did not publish it. It is, however, evident from Prof. Rubeska's statements that his methods were not what he now claims them to be, for with my instruments it is not a part of the examination to bore the finger into the

¹ See Dr. Goodell's letter, dated December 26th, 1895, in my reply to Prof. Rubeska.

bladder! I think Prof. Pawlik has been unwise to withhold his important discovery for such trivial reasons as he alleges.

I have now given the exact facts of the case, in reply both to Prof. Rubeska and to Prof. Pawlik, and I will only add that I do not think it necessary or desirable to answer any further communications from their clinic.

HOWARD A. KELLY.

1418 EUTAW PLACE, BALTIMORE, MD.,
June 30th, 1896.

TRANSACTIONS OF THE SECTION ON
GYNECOLOGY, COLLEGE OF PHYSICIANS
OF PHILADELPHIA.

Meeting of May 21st, 1896.

B. C. HIRST, M.D., *in the Chair.*

DR. ROBERT H. HAMILL reported

A CASE OF CESAREAN SECTION AND HYSTEROMYOMECTOMY
FOR MYOFIBROMA COMPLICATING PREGNANCY; RECOVERY.¹

By invitation of the executive committee, DR. JAMES F. PRENDERGAST read a paper on

THE BICYCLE FOR WOMEN.²

DR. R. C. NORRIS.—I have been very much interested in Dr. Prendergast's paper, since the subject is one to which we are forced to give attention because so many of our patients have taken to wheeling. I have seen benefit, in several patients, follow this kind of exercise. One case I have in mind is that of a patient I saw some two years ago with laceration of the perineum and relaxation of the pelvic floor. I advised operation, which she declined. She passed out of my observation for a time, and only in the past week has come under my care for another condition. She has been a great bicycle-rider during the past two years, and it simply astounded me to find how much tone and strength had been given to the muscles of the pelvic floor by exercise on the bicycle. Her levatores ani muscles have regained their tone and contractility, the uterus is no longer displaced, and an operation is no longer indicated.

Two other patients under my observation at present are of interest; one of them I etherized some time ago, separated adhesions, lifted up a retrodisplaced uterus, and introduced a pessary. I felt sure at the time that there was no pus in the

¹ See original article, p. 217.

² See original article, p. 245.

pelvis, and, the patient refusing surgical treatment, I was justified in resorting to that plan of treatment. She has taken to bicycle-riding, although wearing the pessary, and has seemed to have had no ill effects from it whatever. On the contrary, she is very much improved and is relieved of her pelvic pain. Another patient who wears a pessary rides a bicycle and seems to find much pleasure and benefit in the exercise. Another patient I was called to see recently, brought to my mind a possible danger to some women from riding the wheel. This woman was much prostrated by a long ride. She had used the bicycle but a short time before she attempted to ride a distance of some fifteen or eighteen miles with some friends accustomed to wheeling, and in consequence she was confined to bed for a week. When a woman begins to ride she should be careful not to overdo the matter; she should proceed gradually.

As time goes on we shall gain further experience as to the good and bad effects of bicycle-riding. I frequently advise patients to utilize this means of exercise, and to patients whom I have under my care for a modified rest treatment bicycle-riding is advised in the latter part of the treatment for those who know how to ride. They are put on the wheel for graduated exercise just before they pass out of observation, and those who do not know how to ride are given lessons. I think the excitement attending taking lessons and the enthusiasm which bicycling develops make the patient very much better; she forgets her nervous ailment, and thus the exercise and self-forgetfulness seem to contribute to her improvement. Dr. Prendergast's comments on the necessity for an anatomical saddle are most important.

DR. LONGAKER.—I should like to say a little on this subject, as I probably have some right to speak. I have for some three years past (this is my fourth season of riding) been quite an enthusiastic rider, and the effect has been altogether beneficial. During this time I have advised the exercise for a number of women, and have seen no harm save in one case, and that was due to injudicious exercise. Really, that patient did not take up the exercise on my advice, but came to me because she had injured herself by over-riding. The injury, however, was not to pelvic organs, but to a weak heart. Contrary to my advice, this woman permanently abandoned riding. The disturbance of the heart was only functional. I say contrary to my advice, because I believe that with graduated exercise this class of cases is capable of being benefited by wheeling. I would say in addition, by way of emphasis, that I have not seen any injury of the pelvic organs in a single case.

On the general subject of the exercise, in regard to the matter of position, I see in my observation of women what seems, for very valid reasons, an exceedingly faulty position. I think the exaggerated high position of the handle bars is just as faulty as the low one. Women may frequently be seen going along with their hands in the position they would assume if holding a pair of lines and driving a horse.

It has been remarked by the reader that bicycling is not a leg exercise but general exercise. Its general character, I find in my own case, can be very much improved by throwing a certain amount of weight on the wrists, having the elbows perfectly straight, and also a certain amount of weight on the feet; in that way the weight of the body is distributed between three points—the feet, the perineum (the tuberosities of the ischia preferably), and the wrists. The one objection to putting weight upon the wrists is that in long rides over rough roads a certain amount of numbness will be experienced.

The principal fact that I gather from the reader of the paper is that the sole danger exists in the faulty saddles and that the perfect saddle is yet to be found. I think that for women as well as for men, if used as I have suggested, with the weight of the rider properly distributed, the old-fashioned saddle is not objectionable. If the peak part is kept down in front, the saddle well tilted up, and a certain amount of weight borne on the hands, it answers very well. I have not used the Christy saddle, but theoretically it seems to be an improvement on the older forms.

DR. JAMES F. PRENDERGAST. —I have very little to say in addition, excepting that I did not intend to convey the impression that there were no dangers in bicycle-riding other than those connected with the saddle. There is always the danger arising from the enthusiasm for a new sport or pastime, and the overdoing of the exercise; this is one of the dangers, and I mention it in my article. As a rule the vast majority of women are unable to carry weight on the wrists, and it takes them a very long time to catch the trick of sustaining the weight on the pedals. I do not see one rider in a hundred who is able to do it. It is very well if they are able to do so; if not, it means mischief to them if they strike upon the high peak of one of the old-style saddles.

I wished to convey in the paper that the exercise confers benefit upon the whole body, and not to exaggerate any particular point.

DR. RICHARD C. NORRIS reported

THREE CASES OF TUBERCULAR PERITONITIS.¹

DR. B. C. HIRST read a paper on

MODERN METHODS IN THE TREATMENT OF PUERPERAL INFECTION AND THEIR COMPARATIVE WORTH.²

DR. C. B. PENROSE gave a description of

A USEFUL METHOD OF GAUZE DRAINAGE OF THE ABDOMEN.

I present very briefly a drain which I find useful when it is desirable to use gauze in pelvic or abdominal surgery.

The objection to the ordinary gauze drain is the difficulty in

¹ See original article, p. 208.

² See original article, p. 190.

removing it if kept in the abdomen longer than forty-eight or seventy-two hours. In some cases it is almost absolutely impossible to remove it, without using undue force, for two or three weeks after the operation.

This difficulty of removing gauze made me give up the use of this method of drainage in the early part of the winter, until I thought of the method which I show you to-night. This drain consists of the ordinary Mikulicz gauze drain, which is thrust through a rubber condom the end of which has been cut off.

I have used this drain in twenty-five or thirty cases this winter, and have always been able to withdraw it about as easily as the ordinary glass tube.



Uterus with the suspensory ligament, eighteen months after the operation of ventrosuspension.

DR. PENROSE also exhibited

A UTERUS REMOVED EIGHTEEN MONTHS AFTER THE OPERATION OF VENTROSUSPENSION.

This uterus was removed from a woman eighteen months after the operation of ventrosuspension had been done, and I show it to you because it presents so well the ligament which was artificially formed. The ligament measured two and a half inches when removed four or five days ago, but both it and the uterus have contracted. The small mass at the top is a portion of peritoneum which I cut away in order to remove the ligament entire. I amputated at the internal os. There were

no adhesions whatever about the uterus or abdominal incision, except this band which can hardly be called an adhesion. The uterus was perfectly movable, and I do not think such a pliable, yielding structure could in any way interfere with pregnancy.

DR. R. C. NORRIS.—I should like to ask Dr. Penrose whether he found that the uterus had dropped two and a half inches.

DR. PENROSE.—The fundus was not turned over; the uterus was in its normal position as examined bimanually before operation. The uterus had stretched the suspensory ligament, but had done so by falling down in the pelvis. The uterus, when stitched in the position of ventrosuspension, is too far forward and too high up, and this ligament had yielded to allow the uterus to get back to its normal position in the pelvis.

TRANSACTIONS OF THE GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

Meeting of May 12th, 1896.

The President, W. S. GARDNER, M.D., in the Chair.

DR. HOWARD A. KELLY read a paper on

FIVE CASES OF OVARIOTOMY IN WOMEN OVER SEVENTY YEARS OF AGE.¹

DR. W. P. CHUNN.—What change goes on in one of these ovaries to produce a cyst at that time of life? Most of the active life of the ovary is over at that time. Is it possibly a case where the cyst exists for years in a quiescent state until suddenly lighted up by some exciting cause?

DR. J. M. CRAIGHILL.—I want to thank Dr. Kelly for reading this paper, for as a general practitioner I should in such cases have been inclined to advise non-interference surgically, believing that the operation would mean death.

DR. H. A. KELLY.—I did not call attention to the pathology of these cases, first, because my number of cases has been too small, and, second, because the cases reported by others were not reported with sufficient degree of fulness to permit drawing any conclusions.

DR. W. P. CHUNN related a case which occurred in his practice, recently—viz., a woman miscarrying at about the second month was curetted by him and a very large amount of débris removed. From the history, etc., Dr. Chunn was led to believe that the fetus had been dead two or three weeks, and he asked whether any one had seen any cases where the secundines seemed to grow after the fetal death.

The Society then adjourned.

DR. J. M. HUNDLEY, *Secretary.*

¹ See original article, p. 222.

TRANSACTIONS OF THE CINCINNATI OBSTETRICAL SOCIETY.

Meeting of March 19th, 1896.

The President, R. B. HALL, M.D., in the Chair.

The subject before the Society for discussion was

CHOLELITHIASIS.

DR. C. B. SCHOOLFIELD reported a

CHOLECYSTOTOMY FOR GALL STONES, WITH RECOVERY.

Mrs. Minnie T., aged 23, married five years, had two children and one miscarriage, the latter in April, 1895. For more than a year the patient had been in poor health, with pain in the back and stomach. On October 3d, 1895, she was taken suddenly with excruciating epigastric pain. I saw her an hour later, when the pain had somewhat subsided. It was of a crampy, colicky character, at the epigastrium and edge of the liver. There was tenderness over these parts. Anything taken into the stomach caused pain, nausea, and vomiting. There was no tumor or jaundice. The next day she was better. I was not called again until November 17th, six weeks after, the symptoms then being the same as before. The stomach symptoms were so prominent that I was led to believe that there was catarrh or ulcer of that organ. These symptoms lasted for five days and again subsided. Two weeks later she had a third attack. The suffering was most severe. The patient would seize herself under the edge of the liver and stomach and lift the parts up in order to relax them; great beads of perspiration stood out on her face; the pulse was 150 to the minute and weak, with all the evidences of collapse. A distinct oval tumor could be outlined in the region of the gall bladder, extending downward toward the cecum. On December 11th I gave her three hypodermatics of morphia. On December 12th Dr. Bonfield was called in consultation. He confirmed the diagnosis of gall stone and the necessity for operation, which, however, was refused. The next morning the conditions had changed materially. The most prominent and sensitive part of the tumor was over the ileo-cecal region, giving it the appearance of an appendicitis. The opiate had produced constipation and a fecal tumor more prominent than the gall bladder. A dose of salts was given, which moved the bowels freely, so that the next morning the gall-bladder tumor was quite distinct. The patient had by this time decided upon an operation, but as it was the

13th of the month and Friday (!) the family wished it postponed.

December 14th, assisted by Drs Bonnifield, D. Schoolfield, Kiser, and Dumhoff, I did a cholecystotomy, making an incision over the tumor two inches long and parallel with the median line. When the abdominal cavity was reached the distended gall bladder presented at once. I stitched it carefully all around to the edge of the wound before opening it, then made an incision large enough to admit my finger, and with a scoop removed five calculi, three of unusual size, even the smallest being too large to engage in the duct. After removing the calculi and flushing the bladder with sterilized water the wound was closed with silkworm gut above and below, two sutures through the gall bladder drawing it up snugly into the wound, a rubber drainage tube being left in for twenty-four hours. The stitches were removed on the seventh day. The patient's pulse and temperature were 78 and 98.6° respectively, without change, up to the twelfth day. For two or three days before this she had been greatly annoyed by a cough and complained of pain in the left side. On the twelfth morning she complained more than usual, but had no fever or increase of pulse. At 1 o'clock she had a chill, with severe pain in the lower lobe of the left lung, a pulse of 140 and temperature 104°. Nothing about the wound accounted for this. Dr. Bonnifield saw the patient with me. Examination of the lung showed evidence of incipient pneumonia in the lower lobe of the left lung. She was given three drops each of tincture of aconite and tincture of digitalis every three hours. By 9 o'clock the fever had subsided and did not return. Bile flowed freely from the opening in the gall bladder up to the thirteenth day. The stools by this time showed that the bile was passing into the bowel. I placed a compress over the fistula and the wound closed without any trouble. On the twenty-fourth day the patient stood a railroad trip of twenty miles well, and has had no trouble with the gall bladder since. This case illustrates the difficulties in making a diagnosis of biliary colic. During her entire illness the symptoms pointed more toward the stomach than any other organ as the seat of trouble—pain after eating or drinking, with nausea and vomiting; no jaundice or tumor until the last week, when the latter appeared; then the development of the tumor in the appendiceal region, with increased tenderness at that point, which, if seen for the first time, would have led any surgeon astray in the diagnosis.

The symptoms upon which we usually make a diagnosis are the location and character of the pain, jaundice, putty-colored stools, and tumor due to distension of the gall bladder. The pain may be more prominent at other points than at the seat of trouble and may be attributed to other diseases. In probably fifty per cent of the cases (as in the one just reported) jaundice is absent, and if present might be due to obstruction from other causes. The tumor may simulate cancer of the pylorus, pancreas, colon, or movable kidney, or, as in the foregoing, appen-

dititis. If the patient is seen by the physician during a paroxysm, the suffering is so characteristic of the passage of calculi that one is not apt to mistake it for anything excepting renal colic or torsion of the ureter in a case of floating kidney. The location of the pain in renal colic usually makes it easy of differentiation, but in torsion of the ureter it is sometimes extremely difficult, if not impossible. Tumors of the pylorus, pancreas, and colon usually present symptoms of a general character that distinguish them from distended gall bladder. Movable kidney is probably the most difficult to differentiate. The gall-bladder tumor is not so movable and can usually be traced up to its origin under the liver; a movable kidney may be found at any point between the diaphragm and pelvis, and even beyond the median line. It is not difficult, as a rule, to distinguish between the trouble in question and appendicitis; prior symptoms or a cathartic will generally show the distinction.

The treatment is medical, expectant, and surgical. Sodium phosphate, olive oil, fluid extract of *dioscorea villosa*, and opiates are the drugs usually employed to prevent the inspissation of the gall, encourage the passage of the calculi, and relieve the pain. Earlier resort to the knife in many cases would reduce the mortality to a minimum. Indications for operation are repeated attacks with obstruction of the ducts, failure of the general health, or local inflammation. When small calculi pass with each attack it is best to wait. If the stones are small enough to pass through the duct recovery usually results. If there are repeated paroxysms, with or without jaundice, and no calculi pass, surgical interference is indicated. Absence of jaundice in chronic cases is indicative of large calculi.

The method of operating is a matter of choice. If the adhesions are not sufficient the bladder should be stitched to the incision before opening it. How long the fistula should be left open depends upon the patulence of the common duct. It should be closed only when the stools show that bile is passing.

DR. W. H. WENNING also reported a case of

CHOLECYSTOTOMY FOR GALL STONES.

Mrs. H. K., aged 26 years, married, was first seen by me in consultation with Dr. Jacob Trush, December 17th, 1895. The following history was obtained:

About half a year before she began to have slight pains in the right hypochondriac region. These pains were dull and gradually became more severe, becoming most intense at night; during the day they were frequently scarcely to be felt. They came on gradually, and, after reaching a point of great severity, gradually diminished. They were never sudden or colicky, nor was there at any time any jaundice. Stools were for the most part regular and of natural color. Urine became occasionally dark and showed some deposit of mucus. Never, however, was there any evidence of biliary matter. Three months

previous to the time of this examination she noticed a small lump, about the size of a walnut, at the seat of pain, diagnosed by Dr. Trush as a tumor of the gall bladder, probably due to cholelithiasis. I found a pyriform tumor just below the border of the ribs, about four inches in length and three in width. The lower border was rounded and free, while the upper, narrower portion was lost under the liver, which covered the upper part of the swelling. This tumor was rather freely movable to the right, but only slightly so to the left. The same displacement occurred spontaneously when the patient would change her position to the right or left side. Patient was well nourished, complexion normal, pulse regular but feeble. Intra-pelvic examination revealed only a retroverted uterus. I concurred in the diagnosis made by Dr. Trush, and, in view of the constant increase of pain and swelling advised an early operation. Patient was accordingly removed to St. Mary's Hospital the next day, and the operation of cholecystotomy performed on December 21st. A vertical incision about three inches in length was made, beginning at the lower border of the ribs, parallel with and about two inches to the right of the median line. The distended gall bladder was lifted into the abdominal incision and aspirated, and about one pint of mucus and bile was drawn off. An incision about one and a half inches in length was then made in the gall bladder, after having drawn the viscus, by means of catch-forceps, well into the wound and packed the edge with iodoform gauze. A large number of small gall stones, mostly about the size of a grape seed, were found completely filling the gall bladder. They were scooped out with a large-size Simon curette, and a small saucer filled with the inspissated bile and stones. The walls of the sac were unusually thick (about one-third of an inch), but rather friable. After having thoroughly cleansed the cavity the upper and lower angles of the incision were attached to the abdominal wall, each by a single suture, and the edges of the sac attached to the edge of the abdominal incision, thus carefully shutting off the peritoneum. A soft-rubber drainage tube was then inserted and the wound dressed with iodoform gauze. For the first few days the drainage tube discharged a large amount of bile, which gradually lessened until, at the end of two weeks, the fistula was completely closed, and the patient made an uneventful recovery. A subsequent examination of the stones proved them to be almost all of uniform size, for the most part cuboid, and about five millimetres square. By actual count they numbered *seven hundred and ninety* and weighed *two hundred and sixty grains*.

DR. FRED. KEBLER (by invitation) spoke of the

PATHOLOGY OF GALL STONES.

It may be said, in general, that the stones are formed in the bladder around a nucleus of mucus; this mucus being formed by the catarrhal condition so very common in that organ, and

a little of this mucus inspissated forms a good nucleus around which the cholesterin and other bile salts form concentric layers. The view that the stones are formed in the bile ducts, and then, when small, pass into the gall bladder, is, in my opinion, untenable. We should often find them in the ducts if this were so, and that is almost unknown. I leave out of consideration those few cases (pathological curiosities merely) where worms and other foreign bodies are found as a nucleus. The frequent cause of catarrh of the gall bladder, whether associated or not with the formation of stone, makes the cause of this predilection to catarrh an interesting question. Of course the nearness and direct connection with the duodenum is one factor, but it does not, in my opinion, explain everything. The view I am about to bring before you may appear fantastic, to be discarded under the fire of criticism.

It is well known that all useless organs and tissues, reminders, it may be, of previous conditions, are peculiarly inclined to undergo pathological changes and degenerations. So-called wisdom teeth are an excellent example. As time advances and proper preparation of food makes their use unnecessary, we find they are erupted late or not at all and that they are peculiarly liable to caries. I need only call to your attention the same law holding good in the appendix vermiformis. In the front leg of a horse the long bone between the so-called knee and fetlock joint is the same as our middle metatarsal, and in the horse the metatarsal of the index finger and of the ring finger are closely joined on either side to a middle metatarsal. They are merely rudimentary, being about a third the length and about a quarter the thickness of the human fibula, one end tapering to a point. These bones are absolutely rudimentary, and, following the law spoken of above, are often the seat of disease, a formative periostitis very often developing in them, giving rise to new formation of bone, that in turn to lameness, this condition of affairs being known among horsemen as splint.

It need hardly be said that these useless bones point out the descent of the horse, not from a one-toed, but odd- and probably three-toed progenitor. The proof that the gall bladder is a useless organ is easily shown, and possibly that it is a rudiment of a previously useful organ. Any one who has seen a number of autopsies will tell you that he has not infrequently met with bladders so full of stones that it would be impossible for it to carry out its real or supposed function of storing up the bile to be discharged from it as an aid to digestion; and that these individuals show no symptoms referable to this occlusion of the bladder unless some complications arise, such as perforation by means of ulceration, or the droppage of one of the stones through the cystic into the common duct. I may add that apparently no symptoms arise from the necessary pathological condition found in the mucous membrane of the bladder, set up from the necessarily more or less prolonged pressure. Turning to comparative anatomy, we learn that some animals have gall bladders and others have not. The horse, for

instance, has no gall bladder, and we are reminded by Shakspeare of his wonderful knowledge of then little-known things by his reference to some one as "pigeon-livered, lacking gall," that bird not having this organ. If there were anything in the food which the animal ate to determine the presence or absence of the gall bladder, its presence in some cases and absence in others might easily be explained. The horse, for instance, eats the same food as the ox and the sheep; both the last have gall bladders, in the case of the ox so large as sometimes to contain half a gallon or more. I have not investigated to any extent in regard to other birds than the pigeon. I cannot believe, without more proof than I have, and from my imperfect observation on the subject, that those which eat food so much like that of the pigeon have not that organ.

I think I have at least shown the uselessness of the gall bladder, and the fact that such useless parts and tissues are peculiarly liable to pathological change, and the possible frequent catarrhal condition of the gall bladder as a cause for the frequent presence of gall stones.

DR. C. L. BONNIFIELD reported a case of

GALL STONE.

Mrs. D. H., widow, entered the hospital January 2d, 1896.

Ten years ago she began to suffer excruciating pain in the abdomen, coming on at irregular intervals and lasting from a few hours to two or three days. After being treated for all kinds of gastric and intestinal troubles she consulted Dr. Whitaker, who diagnosed the case as one of gall stones and advised appropriate treatment. A respite of three years followed; then the attacks of pain—sudden, sharp, severe, greatest intensity in the region of the gall bladder—came on again and have reappeared with varying frequency up to the present time.

"On searching the stools after an attack one or two stones would usually be found. In all fourteen stones have been discovered. The patient is now extremely jaundiced and the clay-colored and offensive stools prove the absence of bile in the intestinal canal. The gall bladder may be indistinctly felt, but is evidently not greatly enlarged. She is weak and anemic, with a very rapid heart. On January 6th she was anesthetized with ether and a perpendicular incision was made over the gall bladder. It was carefully surrounded with gauze and opened, the bile evacuated, and fifteen stones removed. The cystic duct was easily seen and a probe introduced, but no stone could be found. I carried my finger along the outside of the common duct and could detect nothing abnormal. The gall bladder was stitched into the abdominal incision with silk, a rubber drainage tube inserted, and the incision partially closed with silkworm gut, aseptic pads applied to absorb the bile, and the patient put to bed. Reaction was slow and feeble, and for more than a week her condition was far from satisfactory, and large quantities of stimulants were required. She slowly

improved, and on February 17th was able to leave the hospital, though the bile was still being discharged in large quantities from the remaining fistula and there was no evidence in the stools of its presence in the intestines." A telephone message from Dr. Mitchell to-day informs me that, while the patient is much improved in health, the bile is still discharged through the fistula. As thorough search for obstruction of the common duct was made at the time of operation as the patient's condition seemed to justify, and the history of the case immediately after the operation shows that it would have been unwise to prolong it. I am now convinced that a stone eluded my search, and if, after a reasonable length of time, bile does not enter the bowel, I shall operate again.

DR. GEORGE E. JONES reported the following case of

GALL STONES.

Miss M., white, aged 42; seamstress; admitted to Christ's Hospital November 6th, 1895. Mother died of kidney disease.

In 1892 she began to be troubled with gastric irritation. About five months previous to her admission to the hospital she had what her medical attendant called "gastric ulcer and dyspepsia." She could not retain anything on her stomach for any length of time; occasional attacks of jaundice, the last, though slight, of about three weeks' duration; has lost considerable flesh. Finally it was diagnosed "cancer of the liver." On examination there was tenderness over the abdomen, right side, extending around to the lumbar region; in fact, continual pain, at times intense. Any movement or exertion aggravated the pain. In turning from side to side she complained of something falling, or, when in an upright position, of a dragging-down sensation, accompanied by a feeling as if something was torn loose. Pain down both thighs, more in the right; nausea; great pain over the renal region, also the so-called depression of the renal space. In a word, every symptom pointed to a case of movable kidney. She was quite hysterical and became despondent at times. Her appetite was good, bowels acted normally, stools normal in character and without odor, but she was not in a condition for making an exploratory incision. Taking tonics and plenty of rest, with good hygienic surroundings, she became in a few weeks much improved and I determined to perform the above operation. In the meantime I called in Drs. Conner, Dandridge, Oliver, George Allen, and Hall. All except Dr. Hall leaned toward the idea of movable kidney. Dr. Hall was non-committal.

December 6th I operated. Drs. Conner, George Allen, Oliver, Haines, and several others present, Dr. Oliver assisting. The patient was placed in the usual position, lying over a hard pillow so as to give me all the space between the last rib and the crest of the ilium. As soon as the patient was under the influence of chloroform I made the usual incision. After getting down to the renal fat I found the kidney in its proper place. Feeling around, my finger came into contact with a cyst

pointing to the opening. I then, with the aid of two pressure forceps, brought the cyst to the opening and packed the side with gauze. I made an incision and a large amount of bile escaped. With the forceps I extracted eight large stones. After washing out the bladder I stitched the wall of the cyst to the wound, placed a drainage tube, made the usual dressing, and put the patient to bed. Her convalescence was somewhat protracted, but she eventually recovered.

DR EDWIN RICKETTS said the most important thing and the greatest aid in the treatment of gall stones is an understanding that exploration not only does no harm, but in a vast majority of cases makes the diagnosis certain. Too much credit cannot be given to the pioneers in this line of surgery, for the antagonism they incurred at the hands of their medical associates was of an uncertain kind, as the latter preferred to treat these cases with "mild chloride," "opium," followed by catharsis and the strongest tincture of the time (too often followed by death), rather than to resort to the radical and timely interception of the knife. It has been settled beyond peradventure that gall stones may be found in the liver tissue, hepatic ducts, cystic and common ducts. The smallest nidus, once started in the liver tissue, may pass through the hepatic ducts into, and yet not engage, the common duct, and, not becoming lodged here, may pass upward into the gall bladder, carried by the biliary current. This is especially likely to occur when the empty gall bladder is becoming refilled. One or more stones may remain in the gall bladder indefinitely before a periodical engagement in the common duct takes place. This is true of the large, or a number of the medium, faceted calculi, while one or more of the mulberry calculi are more liable to periodically engage and seldom pass. They cause the greatest suffering. Such rough calculi cause thickening of the gall bladder and its ducts from the recurring attacks of inflammation.

It is not merely on account of the presence of stones in the gall bladder and its ducts that drainage is employed. We drain the urinary bladder for cystitis, urging the removal of stone from within the same; we drain a dropsical kidney or free it from calculi; we open an obstructed lachrymal duct; we dilate and even cut a urethral stricture; yet the gall bladder and its ducts, from a non-malignant disease, may be filled with a septic fluid which threatens to infect the largest secreting organ of the body, and such a case is too often left for "Nature to take its course." In certain subjects gall stones may act as an exciting cause of cancer beginning in the common ducts. This is a sufficient reason for urging the removal of calculi as soon as they are partially diagnosed, especially in subjects over 50 years of age. The matting of the intestines and their adhesion to the gall bladder, as the result of one or more attacks of localized peritonitis, interferes very seriously with the performance of a cholecystotomy or a cholecystenterostomy. I lost two cases of gall stones from such a

condition. To wait for the characteristic biliary colic, marked pain over the region of the gall bladder, jaundice, and continued clayey stools, before advising opening of the gall bladder, or at least an exploratory incision, is misleading and often disastrous, for the acute pain may be absent or a heavy, dull, aching pain may be located to the left of the median line. Gastritis accompanied by pain and soapy stools may be present, while the jaundice may be but slight.

A stone weighing one hundred and twenty grains lay at the junction of the hepatic and common ducts, and the pain was referred to the median line close to the ensiform cartilage. Dr. B. F. Beebe had examined this patient before the operation, locating the stone "in the median line well up toward the ensiform." He made the same diagnosis by percussion. It was with difficulty that this stone was extracted by means of the alligator forceps through the incised gall bladder after the abdomen had been opened.

With marked cholemia for weeks, the chance of a successful termination of an operation for opening the gall bladder is lessened thirty-three and one-third per cent. The needling of calculi through the abdominal wall and gall-bladder wall, or through the gall-bladder wall after the abdomen has been opened, should never be considered instead of thorough surgical treatment by the open method. Subjective symptoms alone are in many cases a better indication for operation than any objective symptoms found. Gall stones "passed" into the alimentary tract are liable to form enteroliths of a most dangerous kind, causing death from obstruction of the bowels. In many cases those that remain in the ducts and gall bladder may cause such stenosis of the ducts or bladder and be so adherent to them that removal with recovery is almost impossible.

The choice of operation depends on the decision of the operator after inspection of the condition of the gall bladder and its ducts when the abdomen has been opened. For simple gall stones that can be removed, or for closure of the common duct as the result of simple or traumatic catarrh, cholecystotomy, which consists in stitching the incised gall bladder into the abdominal incision, promises the best results. For a chronic obstruction of the common duct, which may be due to impacted stone, cancer, or non-malignant growth beginning in the head of the pancreas, cholecystenterostomy by means of the smaller-sized Murphy button offers the best results. When the gall bladder is so small that cholecystotomy or cholecystenterostomy cannot be done, the cylinder of Murphy, the lower end being attached to the incised gall bladder and gauze thoroughly packed around from bottom to top, is the best we have to offer, if the operator decides that the common duct is to be permanently closed. After the cylinder has been "walled off," keeping the opening well open for a time, the bile may be turned into the small intestine with the end of the button, allowing the

abdominal opening to close. Cholecystectomy is very seldom to be recommended.

DR. EICHBERG.—Much of the interest connected with the subject of gall stones, from a medical standpoint, has to do with the etiology. Charcot has found that gall stones occurred more frequently in women, and chiefly from the twentieth to the fifty-fifth year. The predisposition to the formation of gall stones was traced largely to the functions of gestation and lactation, in which there is a physiological tendency to the accumulation of fat at a time when the woman is likely to take little exercise. It was probably for the same reason they were found to occur in persons who in early life suffered from acute articular rheumatism, the accompanying valvular lesion enforcing a quiet life. The formation of gall stones was found also to be more frequent in the victims of lithemia. Obesity seemed to be a predisposing cause. Here again there was a lack of exercise, and an over-indulgence particularly in the amylaceous products. The bile remains in solution largely on account of its strong alkalinity. In making post-mortem examinations when gall stones have accidentally been found, it has been ascertained that the alkalinity of the bile was almost invariably reduced, and frequently it was neutral, or even feebly acid, in reaction. The principal ingredient of gall stones is cholesterol, which probably forms ninety per cent of the total ingredients of biliary calculi. It was supposed for a time that the gall stones were formed in consequence of an excess of cholesterol in the bile, but it has been shown from the contents of gall bladders taken from post-mortem tables, as well as by analyses of bile from fistulæ, that the proportion of cholesterol remains the same in cholelithiasis as in normal bile. Some experimenters would find the cause in the secretion of a thick and viscid mucus which forms the nucleus of the gall stone. Support to this theory is lent by the fact that a gall stone is formed of three layers, the inner being a thickened, crystalline substance or else a cavity. I think there is little doubt at the present time in the minds of those who have investigated this subject that the excess of mucus in the bile would act like a foreign body in any saturated saline solution, forming a nucleus about which the crystallization of dissolved substances can take place.

The diagnostic points in connection with biliary calculi have been brought out to some extent in the papers already read. Special stress has been laid on the absence of jaundice, and rightly so, as well as on the exceptional location of the pain. In cases which have come under my own notice it was always possible, within twelve hours after the occurrence of an attack, to find some trace of bile-coloring matter in the urine, a sign of some importance. It is supposed the colic is caused, not by a stone in the gall bladder, but by one in the duct. Its location here gives rise to temporary obstruction. This, coupled with muscular contraction of the gall bladder, forces some bile into the lymphatics and thereby causes the appearance in the urine within twelve hours of a sufficient quantity of bile-coloring

matter to be recognized by a careful examination. The diagnosis of gall stones is not made sufficiently often. Pains which are often ascribed to other causes are frequently traceable to gall stones. The hepatic, intermittent fever, it has been claimed, never appears unless there is an inflammation at the same time of the bile ducts extending up into the substance of the liver, as well as affecting the larger ducts themselves. Cases have occurred in which on post-mortem examination the liver has been found the seat of disturbance, where the diagnosis was missed during life owing to the marked fever, often a temperature of 103° to 105° . Taking into account the sex of the patient, the condition of obesity, sedentary habits, excesses, particularly in the direction of starchy or saccharine foods, and an inherited tendency to gout or a previous rheumatism, the pain should not leave us long in doubt. It is important that the diagnosis should be made early in these cases, because in many instances it is possible by purely medical treatment to overcome the difficulty. The medical treatment of cholelithiasis resolves itself into that of the attack and that of the interval. I wish to emphasize the importance of this feature, because the cases usually come primarily under the care of the physician, and because most of these cases do not present distinct tumors unless there is a decided obstruction in the common duct. An obstruction of the cystic duct blocks the channel in both directions and converts the duct into a cyst; therefore the early recognition of the true nature of the case is of the greatest importance. The treatment of an attack resolves itself largely into that of the pain, for which nothing is better than morphia. The old-fashioned formula of turpentine and ether derives its therapeutic principle from the ether, which serves as a diffusible stimulant and not as a solvent of the calculus. In the intervals between attacks much can be accomplished by general measures. By diminishing the concentration of the bile we lessen its tendency to deposit some of its solid ingredients. This can be accomplished easily by alkaline mineral waters, which not only increase secretion, but also maintain the alkalinity of the fluid and thereby lessen the chances of precipitation. Regulation of the diet as to quantity and quality is of very great importance. The most prominent symptoms are gastric in character—nausea and distress after taking food, a vague pain in the stomach. By giving the stomach rest between meals, and not overloading it with food which it cannot digest, we place the liver in a better position. The starchy foods should, if possible, be prohibited entirely. I have in mind a case of hepatic colic occurring after the first pregnancy in a young woman who, according to direction, abstained entirely from starchy food for one year, during which time she took horseback-riding, frequent hot baths, and mineral water. She has not had an attack since. It is true the cholesterin found in the bile is not obtained entirely from the starch or fatty foods, being formed from proteids as well. By overloading the stomach with starch and fat we favor the development of a fatty

degeneration of the liver, with consequent functional derangement and alteration of the biliary secretion. Proper exercise is to be associated with dietary restriction. The relief of the condition on which the formation of gall stones depends can thus usually be accomplished. As to the solution of the stones already formed we cannot promise so much. A number of remedies have been proposed for this purpose, but we meet with the same difficulties here as in the urinary bladder. Because solvents will dispose of concretions in test tubes it does not follow that they will accomplish the same in the economy. The mixture of ether and turpentine was first given for this purpose, but has long been given up as being of comparatively little value. Salicylate of soda does more to produce a cholagogue effect and assist in the dissolving of small stones; dose, thirty to thirty-five grains daily. The stones are forced out, probably under increased biliary pressure. The use of olive oil, which has been largely recommended, particularly in the South, and the ingestion of which in large quantity has been supposed to result in the passage of biliary concretions, is not sanctioned by practice at the present time. The quantities taken are enormous and usually prove nauseating. The masses passed are simply the more insoluble fatty principles of the oil which pass through the intestinal canal. I am inclined to believe that after the fiftieth or fifty-fifth year gall stones are probably more frequently associated with malignant disease than has hitherto been recognized, and I believe they are associated with malignant disease in more or less of a causal relation. An autopsy I saw at the City Hospital is strongly confirmatory of this fact. A patient died of carcinoma. The hepatic and common ducts were free and patulous, and the patient had had stools of normal color all his life. The gall bladder was completely occluded and converted into a cyst about the size of a hen's egg, containing a perfectly clear fluid. The cystic duct was obstructed by a calculus, and around this calculus there had formed a malignant growth which extended from the cystic duct to the substance of the liver and gave rise to a secondary enlargement there about the size of an orange. Gall stones in early life probably do not produce such a result, but after the fiftieth year operation is more necessary because of the danger of a carcinoma developing on account of irritation by the calculus. Much biliary colic may exist, yet all of the symptoms suddenly disappear. I believe this is usually due to an ulceration whereby the stone finds its way into the small intestine and allows a free passage of the bile, so that all the symptoms, including the jaundice, are no longer present. I remember two cases of jaundice, present in one case three years, in another eighteen months, where, after some fever and considerable pain, the jaundice permanently disappeared and the condition of the patients improved very materially. Many cases complain of nothing so much as of the intense cutaneous itching, which disturbs the rest by night and gives them no peace by day. An old treatment is the administration of calomel in one-half grain

doses for six or eight days, the doses repeated every two hours, so that the patient takes six grains of calomel in the day. It rarely results in salivation, frequently causes the passage of greenish stools, and promotes more rapid secretion of bile. This treatment has been lately revived and very excellent results are claimed for it, especially by German observers.

DR. RANSOHOFF.—It has been said that the gall bladder is a rudimentary structure and therefore prone to disease. We have many rudimentary organs which give no trouble—for instance, the hydatid of Highmore of the testicle, of which we hear little after we leave the dissecting room. The gall bladder has a function. The mere fact that in the Cincinnati Hospital a contracted gall bladder was found does not show that the woman did not suffer from gall stones, perhaps for many years. I am led to believe that the generally adopted view that women suffer infinitely more than men from gall stones is not true. I have recently had five cases, and two of them were men. I have already operated five times upon men for gall stones. It is true that the stones are usually found in the gall bladder, yet I recall one case very distinctly in which the man had a stone in the common duct, another in the hepatic duct, and the largest, I believe, in the hepatic duct. That gall stones developing in old persons must lead one to suspect malignant disease, or that there is a distinct relationship between malignant disease and gall stones in the aged, is undoubtedly true; yet I have seen many cases in which, because of the age of the patient, it was supposed a malignant disease was present and an operation refrained from. The first gall-stone operation I did was on an individual 76 years of age, who had not suffered at all six or eight months before the operation, and yet had five large gall stones, without any malignant disease. Recently I assisted Dr. Evans in a cholecystotomy in a man aged 74 who had all the evidences of a grave icterus. The tumor could not be distinctly felt, but a tenderness could be detected in the neighborhood of the gall bladder, and the probable diagnosis was made of a malignant disease. In that case four or five gall stones were removed from the gall bladder, and there was no vestige of malignant disease. I believe the operators have not made a mistake in not performing an ideal cystotomy. Opening the gall bladder, removing the stones, and then dropping the gall bladder back into the cavity should not be done. In many cases there has been no flow of bile for twelve, twenty-four, or thirty-six hours, and then the flow would come on with a rush. If the stitches were not firm at that time, and the gall bladder in the cavity, the end might come very quickly. I do not perform the operation in two sittings, as do some. When one has a large gall bladder to deal with the operation is certainly one of the simplest in surgery, and there is nothing simpler than a cholecystotomy if the gall bladder can be brought into the wound. It is only when the gall bladder is very small, when there have been adhesions and one must operate through an incision in a

woman weighing possibly two hundred and forty pounds and only about four and one-half feet in height, that the operation assumes very great technical difficulties. In one case it was an hour before we could find the gall bladder, and it was absolutely impossible to bring it into the wound. The Murphy button had not been devised, and I doubt whether it would have answered. The wound was packed after operation and the patient promptly recovered. If we can do nothing with the gall bladder and know the ducts are perfectly patent, its removal is justified. Sometimes the organ is so soft and friable that it is dangerous to leave what is a useless structure. In only one of my cases of biliary calculi have I been able to make a positive diagnosis by the passage of stones before the operation, and in this instance the patient had passed fourteen or fifteen. At the operation the stones could not be removed, though they could be felt and disappeared under touch. The patient was retained in the hospital for about two months, and has had no attacks since. The feces have been washed and no stones found. In considering the mortality we must divide the cases into two classes: 1. When the stones are in the gall bladder or cystic duct the cases should recover. 2. When in the ductus communis choledochus, perhaps thirty or forty per cent will die. The operation in the latter class is much more difficult. We have to deal with a region in which are large blood vessels, the wounding of which, while it may not be immediately fatal, certainly produces an alarming hemorrhage. In one case I found the gall stones in the common duct, but it was impossible, because of the oozing, to remove them. I packed the wound, and death occurred within twenty-four hours. I have had two cases of stone in the ductus communis choledochus, one in a man and one in a woman, both of which recovered. With anastomosis of the gall bladder and intestine I have had no practical experience. I think it would be better to resort to the plan which originally led to the bringing of the bile into the intestine as a secondary operation. The operation of cholecystenterostomy was really one which was devised to overcome fistulæ of the gall bladder that would not heal. When we come to turning the bile into the intestinal canal I believe it is safer to perform the operation in two sittings. When one cannot be sure that an obstruction will be relieved it is wiser to establish an ordinary fistula, and if this will not close of itself—in other words, if the obstruction in the ducts is not overcome—to later turn the bile into the intestinal canal. Operations upon patients who are jaundiced are very often fatal. The less we do in such cases, except to give immediate relief, the better, and a grave operation should be postponed until the jaundice disappears.

DR. DUNNING, of Indianapolis.—I believe it has not been clearly enough shown that there is a possibility of differentiating obstruction of the gall bladder from floating kidney. The distended gall bladder always rises and falls with respiration, and nothing can hinder this unless some force is applied to

the gall bladder; the movable kidney may be moved so far away from the under surface of the liver and the diaphragm that it will not be in any way influenced by respiration. This is a practical point of very great value in differentiating these conditions. It has enabled me several times to demonstrate a floating kidney when a distended gall bladder had been diagnosed. The best position for the patient in examining for distended gall bladder is upon the back, the thighs flexed upon the trunk, the abdominal walls relaxed. We can then take hold of the fundus of the gall bladder, and if the patient takes a deep inspiration the descent of the gall bladder and liver can be accurately determined. It will recede again during expiration. If the patient is put upon the side we can, in a case of floating kidney, push it far beyond the edge of the ribs and imprison it by pushing the other hand between it and the liver, depressing the abdominal wall so there is no movement of the kidney during respiration. I have several times made incisions for supposed distended gall bladder and found malignant disease. In one instance I found a malignant disease extending up into the liver, and in another instance a nodule which so nearly resembled the gall bladder that I thought that organ was involved. I think I made a mistake in both these instances in operating when there was absence of the characteristic pain, and should not do so again. No matter how distinct a tumor we may have, no matter if it is in the region of the gall bladder, if pain is absent we should refrain from operating. In the two instances in which I found cancer there were extreme jaundice and hemorrhage. The latter had been present for some time before the operation. We may conclude from the study of cases that hemorrhage with jaundice is more frequently present when there is malignant disease than when there is simple jaundice from distension of the gall bladder. Every man must be his own judge when it comes to operating. I never did the ideal operation, yet once opened the common duct behind an impacted stone and removed the latter. In that instance the walls of the duct were so thick that the operation seemed simpler than attempting to crush or remove the stone from above. The patient made a good recovery. In another case I was unsuccessful in removing a stone at one sitting, but succeeded subsequently, the patient now having intermittent closing of the common duct and the fistula remains. Possibly some stones were left and there may be a reaccumulation.

DR. REAMY.—I have seen several cases which have recovered without operation, contrary to the experience of one of the speakers. I do not mean that an operation is not justifiable, but that it is not always necessary to operate at once.

DR. RUFUS B. HALL.—I quite agree that we should divide these cases into two classes—one, those in which the operation is performed upon the gall bladder; the other, those in which it is performed upon the common duct. At the Academy a few months ago I said that I thought the mortality following the operation of removal of a stone impacted in the common

duct, when the patient has been markedly jaundiced for five to eight or ten weeks, was more than fifty per cent. The doctor at that time thought it about thirty or forty per cent. I grant that that will cover the reported cases, but, as many operators report their fatal cases last or not at all, I am fully convinced that the mortality is fifty per cent, if not greater. From this we can draw a practical lesson, which was emphasized by the speaker, that we should do as little surgery as possible in cholemic patients. Simply unload the patient by making a fistula, and then, if necessary, close the fistula by a secondary operation when she is practically well. Many patients suffer for years from stone in the common duct, and finally jaundice comes on, and after several attacks there occurs a desperate one. When this has continued for a number of weeks, and almost at the last, they consent to an operation. The patient known to be suffering from gall-stone colic year after year should be operated upon while the stone is still in the gall bladder and before it is driven into the common duct and they have jaundice, converting the case from one in which ninety-eight per cent recover into one in which fully fifty per cent die.

DR. JULIA CARPENTER.—Nearly three years ago I was called to a case of very extreme colic from gall stones. As the patient requested me not to use morphine on account of the subsequent nausea, I gave ten grains of phenacetin, repeated in ten minutes. Three antikamnia five-grain tablets were then given ten minutes apart. By that time the pain had almost ceased, the patient fell asleep, and the attack ended. When I inquired whether gall stones had ever been found I was told that several physicians had diagnosed them, but no one had ever searched for them. By diluting the evacuations with water and straining them through cheese cloth, there were found three small, pure white stones, each resembling a two-grain oval quinine pill. They were easily pulverized and had the exact appearance of white cholesterin crystals. Another attack a few months later was relieved by the same treatment. In nine months another attack occurred, in which this treatment did not give sufficient relief, and I followed it with a hypodermatic of one-eighth of a grain of morphine with atropine, when the pain ceased entirely. No nausea followed the morphine and the same speedy recovery ensued. The point of interest is that morphine is not always necessary to relieve these cases, and that the other remedies when used first, even when not effective alone, diminish the size of the dose of morphine required and avoid subsequent nausea. I have found systematic irrigation of the bowels with at least two quarts of water twice a week, between the attacks, successful. In the case mentioned a year has now passed since the patient had an attack, and before using that method one occurred every few months for a number of years.

DR. EDWIN RICKETTS.—The first patient I operated upon was a woman 63 years of age. In that case the stones were found

in the common duct. I have had five cases in which there were undoubtedly calculi, in one case twenty-eight grains of stone in the common duct, in another case two stones in the common duct. In the case of twenty-eight stones these were found in the common duct as well as in the gall bladder. No one should attempt gall-bladder surgery without a pair of ligature forceps, for when introduced and then opened they dilate the wall of the gall bladder and greatly facilitate the removal of stones permanently engaged in the common duct. My experience with the Murphy button is limited to one case. The patient has since gained about twenty-five pounds. The button was passed on the thirteenth day. The greater number of these cases are treated by cholecystotomy.

DR. BONNIFIELD.—I agree with Dr. Dunning that we can diagnosticate between floating kidney and gall bladder, but there is such a thing as a misplaced kidney, not necessarily movable, and in such cases the differential diagnosis may be very difficult.

DR. WENNING.—I should like to answer the point raised by Dr. Eichberg as to the absence of biliary matter in the urine. I cannot vouch for that case, but that was the history given me. I do not know whether chemical examination was made previous to the diagnosis of cholelithiasis. As to the intermittent fever, the patient evidently had more at night than in the daytime, when the pains came on. I must take exception to the complete ruling out of cholecystotomy by Dr. Ricketts. If the gall bladder is simply a useless organ, what good can result from leaving in the body one which is badly diseased? In the great majority of cases cholecystotomy is safer than cholecystectomy, and if the normal functions can be restored, with patency of the duct, it is the only operation justifiable. But when the function of the gall bladder is destroyed and there is a constant liability to recurrence, cholecystectomy is undoubtedly the ideal operation. There is no reason why, with proper precautions and in skilful hands, the mortality from cholecystectomy should be any greater than that from cholecystotomy.

DR. SCHOOLFIELD.—I have in mind an instance in which three able diagnosticians diagnosed as distended gall bladder a case which turned out to be floating kidney. There was jaundice; there were periodic attacks such as occur in gall-stone colic, and also projection downward of the tumor by each respiration. I have had the lady under observation about three years, and during almost all that time have treated her for hepatic colic. She has had repeated attacks of jaundice from pressure, but within the last two or three months I have been able to make a very distinct diagnosis of floating kidney. The kidney has enlarged and come down low enough to enable me to get between it and the diaphragm. I believe that cancer occurring in persons with gall stones, particularly in the aged, is not a degenerative process coincident with gall stones, but that the gall stone itself, by causing irritation, is the original factor in the production of malignant disease. In cases of

obstruction of the gall duct with extreme jaundice, cholecystenterostomy, if performed, should be done as a secondary operation, in view of its danger under such circumstances. The jaundice should first be relieved by producing a fistula.

DR. EDWIN RICKETTS.—I do not think I was understood in regard to the cylinder of Murphy. It is a cylinder about four inches long, with a button which can be fastened to its lower end, and it can then be packed around from bottom to top. I think this treatment better than cholecystectomy.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY.

PROCEEDINGS OF THE TWENTY-FIRST ANNUAL MEETING, HELD IN NEW YORK, MAY 26TH, 27TH, AND 28TH, 1896.¹

DR. WILLIAM M. POLK, of *New York*, *President*.

Third Day (continued).

INTESTINAL BACTERIA AS A SOURCE OF INFECTION COMPLICATING OBSTETRIC OPERATIONS.²

DR. EDWARD P. DAVIS, of Philadelphia, presented a paper with this title.

DR. ROBERT A. MURRAY recalled the case of a young lady of 19 who had been troubled for many years with constipation. There was intense tympany at the time of labor, and this tympany had been well marked during pregnancy. For five days after labor the tympany had been very great and the bowels had moved with difficulty. Curetting the uterus showed no evidence of uterine infection, and from the cases described in the paper he was inclined to believe that the condition was really one of toxemia from intestinal infection. In another case the symptoms had disappeared after free purgation with calomel and salines. On the eighth day after confinement a severe double pneumonia had developed and had nearly proved fatal. In this case, also, there was no evidence of sepsis from the uterus. He had not met with such cases in connection with obstetrical operations. These cases certainly emphasized the importance of keeping our patients under medical supervision during pregnancy. It was important in such cases to give some other cathartic than a saline; it was better to use an "antiseptic cathartic," such as calomel, before resorting to the saline.

¹ Continued from p. 117.

² See original article, p. 198.

DR. GRANDIN said that this exceedingly interesting paper taught a lesson and carried a warning. The lesson was that it offered an explanation of cases hitherto exceedingly obscure. As he looked back he could recall some cases where, had an autopsy been performed, he felt sure the same lesions would have been found. There was the danger, however, that this paper would lead us sometimes to rest satisfied with a diagnosis of intestinal infection and toxemia, and lead us from the diagnosis of true puerperal septicemia. It was extremely comforting to the obstetrician to know that there is no septicemia emanating from the uterus, for this would indicate negligence on his part or that of the other attendants. The autopsy described in the paper certainly offered an adequate explanation of the particular cases there reported. Another lesson might be learned from this paper, viz., that we were not apt to look after our patients during pregnancy with that care which they deserved. We were too apt to take the word of the woman that she had a sufficient evacuation of the bowels daily, just as we were too apt to take it for granted that the kidneys were doing their work properly. The gravid woman should be watched by the physician from the inception of pregnancy to the time of labor.

DR. PHILANDER A. HARRIS, of Paterson, said that he felt the opinion had gone abroad in a more or less definite way that infection did occur in puerperal cases from sources other than from the uterus. He did not think the reader of the paper intended to offer this explanation to account for a large class of puerperal cases. The great achievements which had come during the past few years in obstetrical practice—the great abatement of morbidity and mortality—left very few cases to be accounted for.

DR. CUSHING called attention to the striking analogy between the symptoms in these cases and those which we had learned to recognize after laparatomies. In the latter it had become the rule to give cathartics as soon as these symptoms made their appearance. This had led Tait to express the opinion, inferentially at least, that septic peritonitis could be cured by a prompt and free purgation with salines.

DR. DAVIS, in closing the discussion, said that he had presented this paper purely as a clinical study, and had no theory to offer. The paper was intended for the thoughtful consideration of expert obstetricians. Regarding the matter of differential diagnosis, he would say that he based the diagnosis in the first case upon the comparatively low temperature, the very high pulse, the absence of chill, the fact that the milk came in properly, that there was no sweating, and that after vomiting the patient became hungry. This was not the clinical picture of ordinary puerperal sepsis. He had asked several therapeutists regarding the best purgative to secure an antiseptic condition of the intestine. Prof. Hare had told him that the best method of purgation to thoroughly antisepticize the intestine was the use of minute doses of mercury, particularly the

bichloride. He advised $\frac{1}{100}$ to $\frac{1}{150}$ of a grain of the bichloride of mercury several times a day for a number of days, in conjunction with the use of saline purgatives.

TREATMENT OF INTRALIGAMENTOUS AND RETROPERITONEAL UTERINE FIBROMYOMATA.

DR. WILLIAM H. WATHEN, of Louisville, read a paper with this title. He removes small tumors through the vagina, and, when it is possible, enucleates the tumors from the broad ligaments or the uterine wall without removing ovaries or tubes, thus leaving the woman capable of bearing children. He said that the technique of morcellation was so well known that only the details demanded by individual cases need be specially considered. Where the tumors could be enucleated without excessive hemorrhage the uterine and ovarian arteries need not be interfered with, but in many cases the conditions were such that in enucleation without or with hysterectomy it was necessary to ligate or clamp the uterine arteries before attempting the removal of the tumor or the uterus. The special object of the paper was to describe a method of operating in hysterectomy for intraligamentous or retroperitoneal myomata, too large to be removed per vaginam, and so firmly wedged in the pelvis as to make the abdominal operation difficult and protracted, or even impossible, without great danger to important structures. Since in every hysterectomy we should, after the woman is on the operating table, thoroughly wash and disinfect the vagina, and sometimes curette the uterus, it would require but little more time to separate the vagina from the cervix and ligate or clamp the uterine arteries, which, if possible, should be done in continuity near the pelvic wall, beyond the vaginal branches. We might then enucleate and separate the lower part of the uterus from its attachments, being careful to hug the uterus or tumors so as not to open the peritoneal cavity. The patient having been previously prepared for a celiotomy, the abdomen should now be opened and the operation completed from above. The adhesions having been separated, the ovarian arteries should be ligated close to the pelvic wall, thereby practically cutting off all blood supply to the uterus or tumors. Having made a circular incision through the capsule, entirely around the uterus and tumors, near the fundus, which in some instances might include both ovaries and tubes, enucleation could be rapidly proceeded with, hugging the uterus or tumors so as to make no opening in the capsule, or the capsule might be incised at any point, according to the method which best met the indications. The danger of hemorrhage or of wounding the ureters or bladder was reduced to a minimum. The capsule should be sutured in the lower part of the abdominal wound and the incision closed above. There would usually be no ligatures or sutures left in the peritoneal cavity, except the two on the ovarian arteries, although it was possible occasionally that a small catgut suture might be required to close the connective-tissue spaces on either

side caused by the removal of the ovaries and tubes. The speaker said that the same technique might be followed in the removal of other forms of uterine myomata, and he believed it would be found to lessen the mortality because of its rapid and easy completion.

DR. CUSHING said that when the tumors developed retroperitoneally and grew under the broad ligament it was usually because they originated in the cervix, and under these circumstances they might be below the uterine arteries. He thought that ordinarily, by splitting the capsule of such tumors, they could be turned out of their beds quite easily. He could hardly imagine a condition in which it was necessary for the operator to stitch the sac to the abdominal wall. Where drainage seemed desirable it could be established from below.

DR. P. A. HARRIS said that he considered the method valuable, and he wished he had known of it about a year ago before doing a very difficult and tedious operation. Had he known of this method he thought the operation could have been done in a much shorter time.

DR. S. C. GORDON said that the vagino-abdominal operation was often very much easier. His plan was to do the vaginal operation first and ligate the uterine artery, and then complete the operation through the abdomen. He had also done this operation for fibroids, particularly where the cervix was very long. Where the cervix was very long the operation was protracted, if done entirely through the abdomen, yet he was able to do it by means of a continuous suture of catgut. One such suture was used for each side.

DR. J. TABER JOHNSON said that he thought that if the attempt were made to enucleate these tumors completely we should get into very vascular and dangerous ground, but he saw no reason why the anterior and posterior flaps should not be continued by making a lateral flap and thus allow some of the dangerous adhesions to slip away. We could then close in the wound by a continuous suture, as described by the last speaker. In cases in which this did not seem safe, the combined operation—the vagino-abdominal—seemed the best to select. The operation should be suited to the particular kind of tumor in a given case, instead of holding fast to one method under all circumstances.

THE PRESIDENT said that those expert in such work could appreciate the value of the vagino-abdominal operation, yet oftentimes the vascular area could not be readily reached from above. In dissecting apart the layers of the broad ligament, these intraligamentous growths lay bare the origin of the uterine, vesical, and vaginal arteries. By securing the anterior trunk of the internal iliac, or the obturator and other vessels, with the aid of the Trendelenburg posture, it was comparatively easy to control the blood supply to the field of operation. During the past year he had succeeded in ligating these vessels by simply drawing aside the layers of the broad ligament and following out the technique of the old operation for aneurism of

the posterior trunk of the internal iliac artery. By this method comparatively little difficulty would be experienced in reaching these vessels and in ligating them *in situ*. This having been done, it was surprising how easy it was to complete the operation. The question naturally arose as to the results of cutting off the blood supply from such a large area. The answer was to be found in the experience gained from ligation of the internal iliac. It was well known that a sufficient vascular supply to the lower genital organs was maintained. Moreover, the anastomosis occurring between the branches of the epigastric and the obturator was of vast importance in this connection. The middle hemorrhoidal artery comes off nearly always from the prolongation of the anterior trunk, and sends its branches to the whole vaginal area not covered by peritoneum, anastomosing with branches of the uterine artery. By such extensive anastomosis it was evident that no damage should follow from cutting off the blood supply, as already described. He would therefore recommend, in the class of cases under discussion, the cutting off of the blood supply as close to its origin as was possible—in other words, the ligation of the anterior trunk of the internal iliac.

DR. WATHEN, in closing, said that he referred to the ligation of the uterine arteries per vaginam, and had suggested that the ligation should be near the origin of the arteries. In the cases he had especially described it was necessary to do considerable enucleation before the uterine arteries could be reached through the abdomen, and in such cases he believed the previous ligation through the vagina would be of great value. The uterine artery seemed to be invariably below the tumor, so that it could be easily reached. As to the suggestion of Dr. Johnson, he would say that in the cases under discussion no lateral flap could be made. The adhesions in the pelvis were of no consequence; it was the unfolding of the broad ligament that was of importance.

CESAREAN SECTION ; SUTURE OF THE UTERUS VERSUS TOTAL EXTIRPATION.

DR. HENRY C. COE, of New York, presented a paper with this title. He said that it was his purpose simply to extend the indications originally laid down for the Porro operation, in strict accordance with the teachings of modern surgery. The conclusions arrived at, though based on his own observation and experience, had already been stated in a recent paper by Dr. E. P. Davis. He had felt that the three cases of Cesarean section which he had reported in a former paper, however successful from a surgical standpoint, had been of doubtful benefit to the patients on account of the preservation of the uterus. One of the women, a miserable, tuberculous dwarf and unmarried, had required a second hysterotomy, as he had not seen her again until she was eight months pregnant. He had spared the uterus a second time, but had ligated the tubes. This patient nearly lost her life from sloughing of the abdominal

wound. He then reported a fourth case, seen last February. The parents were very desirous of saving the child, and, although the prognosis for the mother was bad, Cesarean section seemed to offer the best chance. It was evident that her kidneys were seriously affected. After the delivery of the child, although the hemorrhage was slight, the condition of the mother was such that he believed it to be imperative to complete the operation as rapidly as possible. Believing that he could remove the uterus in less time than he could suture it, and in view of the fact that both ovaries were decidedly cystic and that it did not seem right to allow this miserable subject a chance to again become pregnant, he decided to perform hysterectomy. The operation was completed speedily and easily. The patient was in a critical condition for several days, but finally made a satisfactory convalescence. It seemed to him that it was carrying conservatism rather far when we deliberately exposed a miserable, rachitic dwarf, illegitimately pregnant, whose offspring was doomed and whose own life was in great danger of being sacrificed to sentiment. The desirability of preserving the functions of menstruation and ovulation, whenever possible, was well recognized, but how often do we sacrifice the uterus and adnexa in the case of fibroids, which are a far less menace to life than is a second pregnancy to a woman with an absolute impediment to natural delivery! There could be no question as to the simplicity of the technique of suture of the uterus, but it was not true that it was unaccompanied by shock. In upward of a dozen operations he had observed marked shock in every one, yet all were in good condition, and in several labor had not begun. Certainly the time necessary to complete properly a Cesarean section was often greater than that used in an ordinary hysteromyomectomy. Any one who had had occasion to perform the operation must have been impressed with the ease with which ligation of the broad ligaments and separation of the bladder could be accomplished as compared with the same steps in an ordinary abdominal hysterectomy. Regarding this difficult question of whether the surgeon is justified in allowing the patient to incur the risk of a second operation, the speaker said that under some circumstances—*e.g.*, the presence of extensive disease or of neoplasms of the uterus or adnexa—the surgeon's duty was clear, for the case then came under the ordinary rules of modern surgery. To avoid another pregnancy one could ligate the tubes or remove the adnexa, but experience had shown that nothing short of extirpation of the uterus afforded positive immunity against a second impregnation. He agreed with the opinion expressed by Dr. Davis in his paper, that the wishes of the patient should be considered when they really carry weight.

DR. GRANDIN said that he agreed with the indications laid down by the reader of the paper, as he understood them. Where we were dealing with an infected uterus or one containing fibroids, we were perfectly justified in doing a total hysterectomy instead of attempting to do the impossible—curing the

patient by Cesarean section followed by uterine suture. Beyond this, however, he could not go. Given a case advanced to a point where symphyseotomy and induction of labor were impossible and where the uterus and appendages were normal, he did not think we were justified in doing more than a Cesarean section. It was our business simply to deliver her of a live child, if possible, by a method which had been proved safe when the operation was elective and done by one familiar with the method of uterine suture. He laid great stress upon the word "elective," for if previous attempts had been made to deliver the woman by version or forceps when it was evidently impossible, since it was not improbable that the woman had become infected by these unscientific attempts at delivery, he would agree with the author of the paper that the uterus should be removed. But looking upon Cesarean section as it should be—Cesarean section done after a predetermined fashion, by a competent surgeon—it was not our business to look into the future and ligate the tubes or take out the uterus because at some future time that woman might become pregnant. Statistics bore out the statement that the second Cesarean section was safer than the first. The obstetric art was at last gradually becoming scientific, and he ventured to predict that the day was coming when so much attention would be given to the gravid woman, and to the operation which might be demanded at term or before that, that recovery after elective Cesarean section would be just as sure as after version or forceps to-day, in experienced hands. We should not forget that there is so much gynecology because there is so much poor obstetrics. He believed, with the reader of the paper, that where there were no complications the proper procedure was to remove the uterus at the time, for the risk was no greater; but he wished to emphasize the fact that medical men were not called upon to remove the healthy tubes and ovaries from any woman because of the risk she might be subjected to should she become pregnant a second time.

DR. GEORGE T. HARRISON said he would agree with most of the points presented in the paper, but he was more in harmony with the opinions expressed by the last speaker. It did not seem to him right to remove healthy tubes and ovaries because of possible future complications. The main point seemed to be whether or not the uterus had already become infected. In many instances it was so infected at the time of operation. Many years ago he had performed a Cesarean section on such an infected uterus. In all probability this woman would not have died if the whole uterus had been taken out. Where there was any likelihood of the uterus having been infected the rule laid down in the paper was correct—remove the uterus and appendages.

DR. CHARLES P. NOBLE said that he thought most of those present would agree with Dr. Coe, particularly in the statement that Cesarean section would not be called for as frequently in the future as in the past, because symphyseotomy had partly

taken its place. Most of us would also agree that hysterectomy was the proper procedure where the uterus had become infected, or where there were so many fibroids that it did not seem probable that myomectomy could be done in the future. However, in cases in which he thought he could subsequently perform myomectomy, he would personally prefer to do the simple Cesarean section and then later do a myomectomy. He could not agree with the reader of the paper that it was our business to remove the ovaries and tubes from a woman simply because she could not have a baby in the natural way. He had performed a second Cesarean section on two patients with good results. One of these patients, after two Cesarean sections, had been delivered of two more children by symphyseotomy.

DR. R. A. MURRAY said that if the pelvis were badly contracted and the uterus infected symphyseotomy must be excluded and a hysterectomy performed. This hysterectomy must be complete. The ethical question regarding subsequent pregnancies, it seemed to him, did not concern the physician, and he should not, therefore, attempt to decide it. He agreed with the last speaker regarding the advisability of doing a Cesarean section and a subsequent operation for fibroids and other disease, if such should be required. We should not do several operations at once simply because the abdomen was open, for statistics showed that the additional shock so caused was likely to prove fatal. If it could be demonstrated that there was infection already present, then by all means should the uterus be taken out. The fact that we were called upon to perform Cesarean section was presumptive proof that the patient was capable of becoming pregnant, and we should not interfere with this right.

DR. P. A. HARRIS said that there were undoubtedly a certain number of cases of dystocia in which we were fully warranted in removing the uterus. If he had understood correctly, the statement had been made that in Dr. Coe's case of total extirpation the internal conjugate was $2\frac{1}{2}$ inches. He would not dispute the necessity for a Cesarean section in this particular case, but to remove the uterus in such a case, on the assumption that on account of bad handling before it had come into his care he must do so to anticipate sepsis, seemed too radical. He felt sure that most obstetricians would agree that through an internal conjugate of $2\frac{1}{2}$ inches many children were delivered alive. He had succeeded in doing so in one instance. In the next pregnancy a somewhat larger child would not descend through the superior strait, and another practitioner had found it necessary to perforate the fetal head and deliver. This illustrated that the chief question was the relative size of the fetal and maternal parts. He recalled a case in which the internal conjugate was $2\frac{1}{2}$ inches, and he had delivered by symphyseotomy in December, 1894. About six weeks ago the house physician had delivered the same woman of a living baby weighing half a pound less than the first one. Two other physicians besides himself had measured the internal conjugate again before she left the

hospital, and had found that their measurements confirmed the correctness of the first measurement.

DR. EDWARD P. DAVIS said that so far there was unanimity of opinion in the Society regarding the propriety of removing the infected uterus in connection with Cesarean section. Experience with patients as well as with pelves was absolutely essential in performing the full duty of the obstetrician. It had been his fortune to perform in succession three abdominal deliveries, in each of which labor had been induced, in each of which an attempt had been made under anesthesia to bring the head of the fetus to engage in the pelvis, and in each of which the consent of the patient had been obtained, and she had made the request that further procreation be made impossible. He held it to be the right of a woman, when in a condition where natural delivery is impossible, to say to the obstetrician that, if the risk in stopping procreation were no greater than in not doing it, procreation should be stopped. Those who had spoken previously had said that it was not the province of the physician to decide ethical questions, but it was the duty of the accoucheur, he believed, under the circumstances stated, to give the woman the power of volition. It had occurred to him to apply the principles of the modern operation of hysterectomy to the pregnant uterus in cases in which it was not desirable, by the volition of the patient, to continue the power of procreation. The hysterectomy proceeds as smoothly as in the non-pregnant person, and lactation continues uninterruptedly. These three women had been able to nurse their babies. The speaker cited the case of a woman who had lost four children in difficult labors and who requested abdominal delivery of a large child. This was done, and, as no mention had been made to him of the patient's desire to stop further procreation, the simple Cesarean section was done and she soon became again pregnant. She returned, stating that she had been under the impression that by submitting to the first Cesarean section she would have no more children. This was a common belief among women. No man should undertake the responsibility of an abdominal delivery who had not put the mother to the test of inducing labor, bringing the head to engagement in the pelvis, if necessary under anesthesia. No man could tell by pelvimetry alone whether or not a given operation should be performed. It was the absolute duty of the obstetrician to test the relations of the fetal head to the pelvis.

DR. H. J. BOLDT said that the previous speaker had voiced his sentiments for the most part. If a patient had not stated her desire in the matter, he would remove the uterus *in toto*, particularly if fibroids complicated the condition.

DR. H. J. GARRIGUES, of New York, protested against the statement made by Dr. Davis that women should have the right to ask to be made sterile. He could not admit this at all. This must be left to Nature or to God, but certainly not to the physician. The woman might be in such a bad condition that the operator might decide that the risks to her life at the time

of operation would be less if the uterus and ovaries were removed. In cases in which the mother was in an advanced state of tuberculosis or cancer, it seemed to him that the child's right should be considered and that we should save children from such a maternity. But we could not get entirely away from statistics. According to the latest edition of Playfair's book, by Harris, the mortality had been brought down to thirty-eight per cent from the Porro operation. Even the worst statistics from Cesarean section gave a mortality of twenty-five per cent at the present time, and the operation in expert hands gave a mortality of only eight per cent. These statistics should be given some weight. In cases in which it was decided to make a woman sterile, we should do it in a safer way than by taking away the uterus; we might remove the ovaries or simply ligate the tubes.

THE PRESIDENT said that there was a vast difference between the present and the old statistics of hysterectomy performed upon pregnant women.

DR. COE, in closing the discussion, said that he had not laid any special stress on the conjugate of two and three-quarter inches. There was an extreme contraction of the outlet of the pelvis, and this had decided the mode of delivery. He thought the right of the child, as alluded to by Dr. Garrigues, was an important matter and one often given very little consideration. He certainly did not intend to convey the impression that without the patient's consent, and in a reckless manner, he would remove the uterus, just as many of us some years ago had removed ovaries without even saying anything to the patient about it. In the case he had reported there was a double ovarian cyst, the pelvis was hopelessly deformed, and the patient's condition was so alarming that it became absolutely imperative that the operation should be terminated as quickly as possible. These were the indications which had decided him upon the course he had pursued. Moreover, there had been a distinct understanding with the woman and her husband regarding what was to be done. He did not think the statistics of the old Porro operation should be considered at all. In conclusion he said that he hoped he made it clear that he did not desire to be too radical in this matter. He did think that in these operations we must look into the future, particularly in those cases of illegitimate pregnancy in miserable, weak, and sickly mothers, in whom the chances for the children were exceedingly poor.

DRAINAGE OF THE STUMP IN ABDOMINAL HYSTERECTOMY.

DR. HENRY T. BYFORD, of Chicago, read a paper on this subject. He said that in forty-six cases he had turned the uterine stump into the vagina through an opening in the anterior vaginal fornix; in eighteen cases he had sutured the stump with chromicized catgut, shutting off the peritoneal cavity and draining through an opening made into the anterior vaginal fornix; in one case he had not shut off the peritoneal cavity,

but had drained the cul de-sac of Douglas; and in three cases he had removed the whole uterus and drained the stump through an opening left in the upper part of the vagina. Out of this total of sixty-eight, three had died. In his opinion, if he had not drained there would have been at least twice as many deaths. His present method consisted in sewing up the stump with catgut and draining through an opening made in the anterior vaginal wall just in front of the cervix. In a large proportion of abdominal hysterectomies some fluid would accumulate, and he had known of deaths occurring in the hands of others from lack of drainage.

DR. G. T. HARRISON said that one of the first men in this country to treat the stump, after supravaginal myomectomy, by closing the peritoneum was Dr. Goffe, and about the same time Dr. A. Palmer Dudley had done the same operation. The first man in this country who ever performed that operation, however, was Dr. T. A. Emmet, in 1878, in connection with a myomectomy done in the Woman's Hospital. The only defect in the technique at that time was that proper provision was not made for drainage.

DR. NOBLE said that in the first supravaginal amputations that he had done he had placed a little gauze in the cervix, but, seeing no drainage into the vagina, he had afterward omitted the gauze altogether. Some time afterward he began stitching up the cut-off cervix. In a number of cases the silk ligatures had become infected from the cervix, and he now used catgut. He had come to the conclusion, however, that these sutures were of but little use, and that the careful drainage which the reader of the paper had provided for was unnecessary.

DR. BAER said, regarding the matter of priority, that he had always been anxious to give due credit to any one of his co-workers. In the paper which he had read in 1892 he had endeavored to give proper credit for all previous work. Since this time a great many hysterectomies had been done and the mortality had been greatly reduced, so that the matter of priority in many different methods persisted in coming into prominence. He thought he had previously given due credit to Dr. Goffe.

DR. HENRY D. FRY, of Washington, D. C., presented a paper entitled

MYOMECTOMY; FATAL SECONDARY HEMORRHAGE WITH
RISING TEMPERATURE.¹

DR. GRANDIN said that he would take the ground that temperature was no index of the existence of hemorrhage; the pulse was a much better guide, not only as to the existence of hemorrhage, but to that of sepsis. He would feel that so long as the pulse bore a proper proportion to the temperature elevation there was no internal hemorrhage or sepsis. A very rapid fall of temperature, provided it were associated with a rapidly in-

¹ See original paper, p. 46.

creasing pulse rate, was to him an indication of intra-abdominal hemorrhage. Yet the rule was not without its exceptions, for he had seen a normal temperature and pulse, and yet on section he had found free bleeding and old clots.

DR. J. M. BALDY said that abdominal surgeons had long considered the importance of the temperature as but small compared with that of the pulse. When the temperature was subnormal in a case of severe internal hemorrhage, death was usually imminent and it was too late to do anything. It was sometimes almost impossible even by the pulse to determine whether or not a patient was bleeding internally. Unless he could feel nearly positive about the existence of internal hemorrhage, he would not reopen the abdomen. However, he believed that the pulse was the best sign at our disposal.

DR. COE said that he could hardly agree to the plan of leaving the patient alone. He had adopted this let-alone policy in a case, but the autopsy showed the abdomen full of blood. He agreed with the other speakers that the thermometer was no guide to hemorrhage and that the pulse was a fairly good one. He would like to know from those who had had experience with the colored race how they would determine the existence of internal hemorrhage.

DR. A. LAPHORN SMITH had also found that the temperature was no guide to hemorrhage, and that the suddenly rapid pulse was an indication of its occurrence. This sudden rapidity of the pulse was a sign of much significance—it was the best evidence we had of hemorrhage.

DR. BOISE, of Grand Rapids, said that in the case reported in the paper the hemorrhage had been so gradual that the slowly rising temperature had obscured the diagnosis. We must differentiate between shock, sepsis, and hemorrhage. Much was said about "delayed shock," but it was a term often used without sufficient ground. If, after complete recovery from the operation and the anesthetic, the pulse was good, shock could be excluded. If after this the pulse increased in frequency, we must differentiate between sepsis and hemorrhage. If with this there was an elevation of temperature, we at once suspect sepsis. Where there was a gradual hemorrhage into the peritoneal cavity there was apt to be an increase of temperature, owing to the effort of the peritoneum to absorb the blood. He thought it would be safe to interfere if the pulse became more rapid and more feeble.

DR. E. P. DAVIS said that in the slow extravasation of blood after rupture of an ectopic gestation there was a slow elevation of temperature, due either to the effort of the peritoneum to absorb the blood or due to a slight adhesive peritonitis. When the cervix is occluded by a large clot the woman may bleed into the uterus to a considerable amount, and this would be indicated by progressively increasing pulse and a slight elevation of temperature. In differentiating between sepsis and hemorrhage, he would say that in abdominal sepsis the pulse tended to fall and the temperature to rise, whereas in gradual

internal hemorrhage there was a gradual rise of temperature associated with a progressive rise of the pulse.

DR. FRY, in closing the discussion, said that he had presented the case to obtain further information regarding the differential diagnosis in these obscure yet urgent cases. He could not find in our text books any statements regarding temperature and hemorrhage, except that the temperature tended to become sub-normal. These books certainly needed revision on this point. In the case reported the hemorrhage lasted for twenty hours before it was sufficient to cause death.

AN ELECTRODE FOR LIBERATING LIGATURES.

DR. CLEMENT CLEVELAND exhibited an electrode which he attached to the silk ligature in vaginal hysterectomy. It was his almost invariable practice to ligate the uterine arteries. It occurred to him some time ago to use this electrode to burn the ligatures. The electrode consists of two copper wires, carefully insulated by silk thread except near the points where there is a connecting loop of platinum. These electrodes are attached to the ligatures. Thirty-six hours after operation a current from a three-cell battery is passed through these electrodes, thus severing the silk ligatures. He had used the instrument with much satisfaction in a number of cases, applying in some instances as many as eight of these electrodes and removing them as described. The electrodes were flexible and did not interfere at all with the usual manipulations.

DR. GRANDIN asked if he had experienced any difficulty in applying the ligature over the platinum loop.

DR. CLEVELAND replied that he had not met with any difficulty except when the vagina was small.

REVIEWS.

THE ADENOMYOMATA AND CYSTADENOMYOMATA OF THE UTERUS AND THE WALLS OF THE OVIDUCTS: Their Origin from the Remains of the Wolffian Body. By F. v. RECKLINGHAUSEN. Appendix, Clinical Notes of the Voluminous Adenomyomata of the Uterus, by W. A. FREUND. 12 plates and 2 wood engravings. Berlin: A. Hirschwald, 1896.

The suspicion which has long existed that there are different varieties of uterine myomata has become a certainty through the investigations of Recklinghausen and Freund. From now on we must differentiate an anatomical group which possesses the anatomical peculiarity of tubular glands from which they derive the name adenomyomata. Cystadenomata are the tumors which have cysts lined with cylindrical epithelium, having a resemblance to the glands of Lieberkühn and the

utricular glands. Recklinghausen divides the adenomyomata into those of large and small size, also into those of the tube and the junction of tube and uterus. The seat of the adenomyomata is the thick muscular strata of the tube or uterus; they sometimes extend to the peritoneal covering, at times even perforating this, and they may also invade the parametrium. These growths have also the tendency to form inflammatory union with the surrounding structures, and, in contradistinction from the ordinary myomata, they form diffuse infiltrating tumors arising usually from the dorsal surface of uterus. Von Recklinghausen differentiates four subdivisions of adenomyomata: 1. Hard tumors in which the new-formed muscular tissue exceeds the adenomatous structure. 2. Cystic, containing macroscopical vacuoles together with adenomatous and myomatous tissue. 3. Soft, in which the naked eye can distinguish the prevalence of cystogenic connective tissue. 4. Teleangiectatic, soft growths of excessively vascular adenomatous tissue, nearly void of cyst formation. An examination with the microscope shows that the tubular glands are arranged in a regular order; they are also connected with the surrounding tissue like other organized structures. These tumors are therefore organized growths, while the ordinary myomata are of histoid development. The tubular glands of the adenomyomata have originated from the Wolffian bodies, and the lining epithelium is like that of the Wolffian ducts of the ciliated variety. The author refutes the theory that these glandular structures might be derivatives of the utricular glands, yet mentions a large adenomyoma, sent to him for examination, which clearly showed that its glandular portion originated from the utricular glands. The main distinguishing features of this variety are its intimate connection with the uterine mucous membrane, and a number of depressions leading directly from this into the tumor. These growths are usually found upon the ventral portion of the uterus, and are less liable to form peritoneal adhesions; they are, however, apt to undergo cancerous degeneration.

The clinical symptoms of the large adenomyomata are described by Freund, based upon an extensive number of cases which were operated upon. These women, generally between 20 and 50 years of age, give the history that they were not strong and healthy during childhood. Menstruation appeared late and they suffered from anemia. Dysmenorrhea accompanied by profuse menstruation is a constant symptom, and the majority remain sterile. Pelveo-peritonitic symptoms appear early; they may resemble disease of the adnexa. The general health begins to fail on account of the continued profuse menstruation, severe pains, and the disturbed function of the bladder and rectum. Physical examination reveals an infantile character of the genitals. The vagina is short, the fornices are shallow, and the uterus is in a position of congenital ante-flexion. The cervix is small, widening toward the fundus. At a later stage the uterus and tubes present an irregular surface, which increases in size, when they are called tumors.

These produce inflammatory bands in the pelvic peritoneum, thus forming adhesions between the pelvic organs and the intestines.

These uterine tumors have a far less favorable prognosis than the ordinary uterine myomata. Castration or ligation of the uterine vessels is useless, and only complete removal by hysterectomy or myomectomy is of any value. In these cases, however, the operations present more than usual difficulties.

J. R.

PRACTICAL POINTS IN NURSING, FOR NURSES IN PRIVATE PRACTICE. By EMILY A. M. STONEY, Superintendent of Training School for Nurses, Carney Hospital, Boston, Mass. With 73 engravings and 9 colored and half-tone plates. Pp. 456. Philadelphia : W. B. Saunders, 1896.

This is a well-written, eminently practical volume, which covers the entire range of private nursing as distinguished from hospital nursing, and instructs the nurse how best to meet the various emergencies which may arise and how to prepare everything ordinarily needed in the illness of her patient.

The author follows a logical division of the text, which includes: The nurse: her responsibilities, qualification, equipment, etc.; The sick-room: its selection, preparation, and management; The patient: duties of the nurse in medical, surgical, obstetrical, and gynecological cases; Nursing in accidents and emergencies; Nursing in special medical cases; Nursing of the new-born and sick children: Physiology and descriptive anatomy; and an appendix containing rules for feeding the sick, recipes for invalid food and beverages, weights and measures, dose list, a full glossary of medical terms and nursing treatment, and a good index.

DIETS FOR INFANTS AND CHILDREN IN HEALTH AND DISEASE.

By LOUIS STARR, M.D., Editor "American Text Book of the Diseases of Children." Philadelphia: W. B. Saunders, 1896.

This little book is made up of a series of detachable sheets giving diet lists available from birth to childhood. Those for the first seven months, when changes are most often necessary, have the quantities of the various ingredients left blank, and are preceded by a table giving the average rules for feeding during this period. After the seventh month changes are less often necessary and these lists are printed in full.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Volume VIII., pp. 300. Published by the Association, W. E. B. Davis, Secretary, Birmingham, Ala., 1896.

This volume contains the papers, discussions, and minutes of the eighth annual meeting of this flourishing Association, held at Washington, D. C., in November, 1895. An abstract of the gynecological portion of this meeting appeared in the February, 1896, number of this JOURNAL.

BRIEF OF CURRENT LITERATURE.

OBSTETRICS, GYNECOLOGY, AND ABDOMINAL SURGERY,
IN CHARGE OF THE EDITOR AND DR. JULIUS ROSENBERG.

PEDIATRICS,

IN CHARGE OF DR. A. RAYMOND-SCHROEDER.

OBSTETRICS.

Anesthesia in Obstetrics.—In an article on the use of anesthesia H. B. Gardner ' concludes that the force and frequency of uterine contraction is not often materially affected by chloroform anesthesia of the second degree; though the pains may be slowed, they are often made more regular and less liable to inhibition by mental stimuli in nervous women, and if this degree be not exceeded the uterus will not relax and after-hemorrhage will not ensue. Complete muscular relaxation of the third degree of narcosis requires extra though temporary precautions against hemorrhage.

Uneventful Midwifery.—Jago ' reports forty-seven hundred cases of midwifery with nine deaths. He concludes, as a result of this death rate and the few abnormalities which he encountered, that clean midwifery need not be ostentatiously antiseptic, and that among the lower middle and respectable artisan classes of England variations from the normal state are comparatively rare.

Early Signs of Pregnancy.—C. Vinay ' says that pregnancy can be determined at the sixth to the tenth week in most cases. The cervix at that time retains its cylindrical form and is slightly softened from below upward; the body is spherical, increased in size, and its walls are soft and feel semifluctuating.

Management of Labor.—J. S. Thomson ' never allows the use of the vaginal douche in a patient who has passed through a comparatively normal labor, whether forceps have been used or not. Some of his views are at variance with those generally accepted. He uses forceps once in every five cases, for he says that "with a well-dilated os it is folly to wait for hours upon Nature to complete what can be brought to a close in as many minutes." He also gives ergot, as a routine practice, immediately after the birth of the child, and always removes the placenta within fifteen minutes.

Management of Pelvic Presentations.—R. G. McKerron ' speaks of varying opinions as to the employment of traction in breech cases, and acknowledges that traction upon the presenting parts tends to cause extension of the arms and of the head, but thinks that even when left to Nature extension occurs

in many cases. When artificially produced it can be easily remedied. Traction forms the most speedy, and therefore, in the interests of the child, the safest, way of completing delivery. In cases in which, if left to Nature, extension would not occur, it can be prevented, when traction is employed, by abdominal pressure. An assistant should exert strong and continuous pressure directed toward the thorax of the child, with both hands spread uniformly over the fundus and sides of the uterus. Anesthesia aids by relaxing the abdominal wall. This method not only maintains the arms in place, but also aids the birth of the head, on which the uterus acts at great disadvantage after delivery of the shoulders.

Ectopic Gestation.—M. D. Mann¹ reports a recovery after celiotomy for ruptured tubal pregnancy, and a death from hemorrhage in a case treated by vaginal incision with removal of fetus, placenta, and blood clots. He suggests as rules in the treatment of ectopic gestation: 1. Before rupture—celiotomy. 2. Soon after rupture; intraperitoneal hemorrhage—celiotomy. 3. After rupture; hemorrhage; no attempt at enclosure; septicemia—celiotomy. 4. Encysted hematocele, early—celiotomy; or delay and, later, colpotomy. 5. Encysted hematocele, late or with sepsis—colpotomy.

W. G. Wylie² records three cases of ectopic gestation in order to demonstrate that hemorrhage frequently occurs very early in such cases. All were successfully treated by the abdominal incision. Three septic cases recovered after operation by the vaginal route. He would employ this operation only in suppurating cases.

H. N. Vineberg³ reports a case of ectopic pregnancy in which the woman had been regular, and a continuous hemorrhage began seventeen days after the last normal menstruation. There had been no symptoms of rupture of the tube or of intraperitoneal hemorrhage, and the patient was comparatively free from pain and febrile symptoms, although a rather extensive local peritonitis existed. These facts had obscured the diagnosis. Recovery followed enucleation by the abdominal route.

A case in which ectopic gestation occurred in a woman, the mother of five children, but who had not been pregnant for eleven years, is reported by H. G. Wetherill.⁴ Recovery followed removal of the extraperitoneal gestation in the twelfth month, the fetus having died at the time of a spurious labor at term.

Tubal pregnancy complicated by an inguinal hernia is recorded by E. F. Murphy.⁵ Recovery followed operations.

Rupture of the Uterus.—Chéron⁶ records two fatal cases of spontaneous rupture of the pregnant uterus.

Lactation-atrophy of the Uterus.—H. N. Vineberg⁷ says that modern researches tend to prove that post-puerperal involution consists chiefly in a retraction and contraction of the individual muscle fibres, whereby the whole uterus is reduced in size. When involution goes on to completion the uterus becomes smaller than the non-parous organ. This condition of

complete involution is known as post-puerperal hyperinvolution. It is seen principally in nursing women, and from this circumstance has received the cognomen of lactation-atrophy. It is a normal and desirable condition, usually temporary, but very rarely, under unfavorable circumstances, may become permanent. When the parturient is unable to perform the function of lactation, hyperinvolution should be induced, if possible, by other means, in order to prevent gynecological affections which frequently result from imperfect involution.

The Influence of Alexander's Operation upon Pregnancy and Labor.—Stoecker¹¹ finds that this operation exerts no unfavorable influence upon conception, and in his extensive experience he had never seen a labor complicated by the results of the operation. The uterus remained in a continuous normal position, proving the operation of permanent value.

Complication of Labor by Myoma of the Cervix.—Tumors of the cervix which are of the subserous type or extend into the parametrium may necessitate Cesarean section. The submucous variety, however, rarely obstructs the progress of labor. In case they block the outlet of the pelvis they can either be pushed out of the way, or, if this is not possible, they may be enucleated. Fleischlen¹² reports a case of placenta previa complicated by large myoma of the cervix, in which he was able to deliver *per vias naturales*.

Placenta Previa.—C. W. Townsend^{*} says that after delivery, in cases of placenta previa, dangerous and often fatal hemorrhage is likely to occur. A moderate and, under other circumstances, normal loss of blood post partum may, owing to previous losses, prove fatal. Such hemorrhage may be prevented by packing the uterus immediately after delivery.

Hemorrhage from the Coronary Sinus of the Placenta.—G. Pujol¹³ records four cases of hemorrhage during pregnancy from rupture of the coronary sinus of the placenta without partial separation of the latter structure. Such hemorrhage, from its abundance, may cause abortion; the children born are often feeble, while at times it has caused death of the child or mother. It must be diagnosed by the exclusion of placenta previa. Occurring before labor it should be treated like any other hemorrhage at that time. When labor is in progress the membranes should be ruptured and the balloon of Champetier de Ribes employed. If a breech presentation, a leg may be drawn down, gentle traction upon it serving for hemostasis, dilatation of the cervix, and delivery.

Ovariectomy during Pregnancy.—The successful performance of ovariectomy for dermoid cyst, without disturbing a pregnancy of five and one-half months, is recorded by H. C. Coe.¹⁴ The abdominal route was followed. The case illustrates the necessity of examining every woman early in pregnancy, however uneventful her history may be.

Central Laceration of the Perineum.—Choteau¹⁵ reports a case in which, before his arrival, the woman had given birth to a normal infant, vertex presentation, through a central laceration.

ration of the perineum. The midwife had delivered the placenta by the same route. As the sphincter ani was not involved, he closed the perineal orifice with deep and superficial sutures, and tamponed the vaginal opening of the laceration in order to prevent accumulation of the lochia in the large cul-de-sac which the fetal head had formed. This tampon was changed daily. He advises that when a central perineal laceration is seen to have begun, the untorn portion on the vaginal side should be divided by scissors, converting the tear into a simple laceration and avoiding injury to the sphincter ani.

Eclampsia.—Robert¹¹ records the successful treatment of a case of eclampsia at the seventh month by *accouchement forcé*.

Subcutaneous Emphysema during Labor.—Nicaise¹² speaks of the sudden formation of subcutaneous emphysema at the base of the neck which is sometimes seen in difficult labors, especially among primiparæ. It occurs during expiration, following sharp and repeated cries, and is due to rupture of the distended trachea or a weak spot in a large bronchus. Previous lesions of these structures predispose to its occurrence. Although usually of little importance, it has in one case caused death. When such subcutaneous emphysema is noticed at the base of the neck the labor should be terminated as quickly as possible, or the pain and cries stopped by administration of chloroform.

Phlegmasia Alba Dolens during Pregnancy.—L. Saint-Ange¹³ describes a case of phlegmasia alba dolens occurring during pregnancy, with death and expulsion of the fetus at the fifth month and recovery of the mother.

Hydatidiform Mole.—A case of hydatidiform mole is described by W. Gillette.¹⁴

Puerperal Sepsis.—J. R. Goffe¹⁵ records a successful abdominal hysterectomy for puerperal sepsis.

F. T. Meriweather¹⁶ divides puerperal sepsis into septic infection and septic intoxication, in the latter of which the curette should be used, but never in the former. He does not advocate the vaginal douche before labor, as it may dissolve mucus, setting free bacilli, and removes the natural lubricants of the parturient canal.

Osteomalacia.—James Ritchie¹ says that in non-pregnant women and in men a sufficient number of cases of recovery from osteomalacia after internal treatment have been recorded to warrant its being tried, provided the case is not very advanced. The most successful methods of medicinal treatment are favorable hygienic conditions, good food, the internal administration of phosphorus, bone marrow, and the use of salt baths. There have been a few cases of favorable result after chloroform narcosis. Psychological changes have been reported in some women after removal of the ovaries, therefore other remedial measures should first be fairly tried. If these fail, or if the case be advanced with considerable deformity, oöphorectomy should be performed without delay, in order that bone changes and deformities may, if possible, be prevented.

In pregnant women having such a contraction of the pelvis

that the birth of a viable child is impossible, operation must be performed. If the disease is progressing rapidly this should be done without delay. It has been much discussed whether abortion should be induced and at a later date the ovaries removed; or whether, if the disease is not progressing rapidly, it would not be better to wait till term, then to operate, either by Cesarean section and removal of the ovaries or by a modified Porro. Osteomalacia cannot be caused only by a lesion of the ovaries, as it occurs in men and in cases where the ovaries and tubes have been removed. It is probably due to a primary affection, of unknown nature, of the cells of the cord, and probably involves the large caudate cells of the anterior cornua. That the lesion is not inflammatory is shown by the rapidity of improvement after operation. It must be of such nature as to be benefited by phosphorus and measures aiding general nutrition, as evidenced by the result of such treatment. The disease seems allied to *fragilitas ossium*, in which the nerve cells are supposed to be in a state of malnutrition. If we acknowledge that the cells in the cord which preside over nutrition of the bones are in this disease in a condition of low vitality and increased irritability, reflex irritation from the ovaries or other organs at menstrual periods and during pregnancy might be sufficient to aggravate or excite the disease, and prolonged lactation, damp and other unfavorable hygienic conditions, by lowering the general nutrition, would affect also the nerve centres. If we admit the origin of the disease in the central nervous system, we afford a ready explanation of its endemic character in certain localities, because in no class of diseases is heredity so marked as in those of the nervous system.

Care of the Breasts after Parturition.—The care of the breasts after parturition advised by T. Wilkins" is briefly: cleanliness, with as little interference as possible before labor; after labor, cleanliness, dryness, and sufficient rest. If very sensitive, nipple shields; if erosions or fissures appear, balsam of Peru or silver nitrate. For engorgement or mastitis, massage and cold compression, which alone are effective, combined almost invincible.

The Influence of Somatose upon the Mammary Secretions in Nursing Women.—Drews" observed and reports twenty-five cases in which somatose produced an abundant milk secretion in women who seemed to be unable to nurse, and also caused an increase of the flow in cases in which, for one reason or another, the milk ceased to flow. The dose given was one teaspoonful in a cup of warm milk three or four times a day. On account of its absolutely tastelessness patients do not object to this preparation.

The Treatment of the Disturbances of the Menopause.—The treatment of these complaints has been much neglected, probably because medical art has been nearly powerless to combat them. The cause of these disturbances is probably atrophy of the ovaries, as younger individuals complain of similar symptoms after removal of their ovaries.

L. Landau " has had success with ovarian extract prepared from the ovaries of cows. These he administers, on account of the disagreeable taste, in the form of tablets. One hundred tablets are given (dose not reported), when the treatment is interrupted for a few weeks.

Three Successful Cesarean Operations on the same Woman.—C. N. Van de Poel." The woman had given birth to two macerated children, the second delivered instrumentally. At the third pregnancy she was brought to the clinic after being in labor three days. The child was in transverse position, dead, and macerated. After decapitation delivery was effected. The pelvis was of the flat, rachitic type, with a diagonal conjugate of 6.5 centimetres. The woman was directed to present herself, in a subsequent pregnancy, at the hospital when pains began, to be delivered by Cesarean section, the contraction being too great to permit the induction of premature labor. Having conceived again, a typical Cesarean section was performed by Von der Mey on February 12th, 1886. A living child was the result. The mother made an uneventful recovery. The second operation took place on September 25th, 1888. The lower portion of the anterior uterine wall was connected with the peritoneum by numerous very vascular adhesions. There was considerable post-partum flooding, which was ascribed to the performance of the operation before the onset of labor pains. The hemorrhage was arrested by intrauterine tampons of iodoform gauze, which are also recommended by Ruge and Dorn. Poel, however, does not like this method, because it increases the liability to sepsis and may tend to rupture the freshly united uterine wound. Again the operation was successful for both mother and child.

The third operation occurred on February 1st, 1896. Again numerous adhesions were found, which delayed the progress of the operation and left so much raw surface that Poel decided to remove the uterus after Porro's method. The cervix, after cauterization with fifty per cent chloride of zinc, was dropped back into the peritoneal cavity. Some time after the patient was placed in bed it was found that bright-red blood passed per vaginam. Examination with the speculum showed that this came out of the cervix, and the abdomen was reopened. The small defect in the peritoneum was the source of hemorrhage, and, after ligating the spurting artery, the abdomen was again closed. The child was healthy and thrived well. The mother made a good recovery and continued in perfect health.

Demonstration of a Case of Vaginal Cesarean Section and of a Ruptured Uterus removed per Vaginam.—Dührssen." These cases, which were demonstrated at the twenty-fifth German Chirurgical Congress in Berlin, represent the highest development of vaginal surgery; they form the logical evolution of vaginal hysterectomy and the vaginal myomotomy of Czerny. The vaginal hysterectomy of Dührssen is a non-dangerous substitute for the ordinary Cesarean operation, and is indicated in cases in which labor is arrested by a rigidity

of the cervix produced by tumors or stenosis, also when rapid delivery is demanded. Eclampsia, intrauterine hemorrhage, uremia, or grave disorders of lungs and heart, and pelvic contraction are contraindications. The technique of the operation is the following: By means of large specula the cervix is brought into view and then the anterior and posterior fornices and cervix are divided by a sagittal incision. The peritoneum of Douglas' pouch, the plica vesicæ, and the bladder are detached from the cervix; hemorrhage is arrested by sutures and ligatures. In Dührssen's case the hand was introduced into the uterus and version performed. He was able to extract a living child weighing ten and a half pounds. When the cervix is the seat of a malignant growth vaginal hysterectomy may be performed immediately afterward.

Symphiseotomy.—Heinricius "is of the opinion that, whenever possible, premature labor should be preferred in cases which would necessitate symphiseotomy at the end of pregnancy. This is the reason that he has only once done this operation. The puerperium passed normally, but the woman had later many complications caused by a necrosis of the ends of the pubic bones; there was also a marked diastasis of the symphysis, especially noticeable upon raising one thigh. Six months later connective-tissue union had occurred. Heinricius relates the various complications which have been observed as a result of this operation, and finally concludes that the operation of symphiseotomy cannot altogether displace craniotomy, the relative Cesarean section, high forceps, or prophylactic version.

Version in the Ventral Position.—Mensinga "was enabled to deliver by version in the ventral position two cases in which the usual dorsal position presented insurmountable obstacles. He claims for this method the following advantages: 1. The aperture of the pelvis is directed upward, instead of downward as in the dorsal position. This gives more room for the operating hand. 2. The arm remains continuously in a position of pronation, in which the acting muscles have a greater certainty of action, as in supination. 3. The ventral position produces a shortening of the uterus and vagina and a widening of the latter organ, enabling the hand to be introduced with greater ease. 4. The os is also widened and the contraction ring at the os internum disappears. 5. The dorsal surface of the hand remains in continuous contact with the spinal column; this forms an excellent guide to the operating hand. The maternal soft parts cannot be injured. 6. The shortening of the uterus enables the operator to grasp the fetal parts with greater ease. 7. The patient is in a more esthetic position. 8. The danger of tearing the uterus from the vagina is avoided, because the hand encounters no obstacles in its entrance to the vagina and uterus. 9. Air embolism cannot occur, as the uterine fundus forms the most dependent portion of the genital canal, and any air which might enter remains in the vagina. 10. The former reasons also explain why the operation is less painful and the external genitals are always in plain view.

GYNECOLOGY AND ABDOMINAL SURGERY.

Exploratory Incision in Abdominal Surgery.—J. H. Carstens¹¹ favors exploratory celiotomy for obscure abdominal troubles. As this may show the necessity for any operation, it should be done only in a well-equipped hospital. The incision should be made in the median line, if possible, or at the outer edge of one of the recti muscles, avoiding the fleshy parts of abdominal muscles. In aseptic cases the buried kangaroo tendon or catgut ligature in tiers should be used; in all septic cases, including tubercular peritonitis, silkworm gut, silk, or silver wire.

Precaution in Abdominal Section.—J. Shaw¹ suggests the routine practice of washing out the stomach before every abdominal operation, with a view to preventing septic pneumonia from regurgitated vomitus, as it is not always possible to prevent patients from eating before the anesthetic is given. He describes a case in his practice to illustrate the necessity of such care.

Three Abdominal Operations.—A. Sheen¹ reports the recovery of a case in which he had performed successively abdominal incision for perityphlitic abscess, exploratory celiotomy, and hepatotomy for abscess of the liver.

Laparotomy.—A. J. Bogaevsky¹¹ records one hundred and fifty laparotomies at the hospital of Kremenchong during ten months (1895-1896), with a mortality of 10.6 per cent.

Gauze Drainage.—L. G. Baldwin¹¹ drains in cases of free oozing, rather than prolong an operation to control it, and in all cases where the peritoneum has been at all soiled with pus. He prefers drainage through the abdomen. Unless the pus is thick and creamy, he employs sterile gauze, a yard wide, firmly twisted and made to go to the bottom of the cavity without bending on itself. The protruding end is spread out to afford a broad contact with the dressing, which must be kept wet.

Two Cases of Ileus after Abdominal Section.—Heinricus¹¹ observed two cases of acute intestinal obstruction in three hundred laparotomy cases. Both occurred at a late date, fifteen and twenty-three days respectively after an uncomplicated ovariectomy. In the first case the abdominal wound was reopened after the symptoms had become clear, and adhesions between pedicle and gut were found and divided; the patient, however, died. In the second case ileus was suspected, although the symptoms were not marked; a subsequent post-mortem showed an occlusion of the ascending colon.

Shock caused by the Reflex Action of Operative Traumatism.—Rühl¹¹ publishes two such cases. It is well known that a peripheral irritation of the nerves supplying the abdominal organs produces a depressing effect upon the heart's action; pathological conditions of the stomach or intestines are also often the cause of cardiac disturbances, sometimes accompanied by altered function of the respiratory branch of the vagus.

Although deaths following operations are mostly due to other causes, it must be admitted that promiscuous handling of the abdominal organs, if not the sole cause, certainly intensifies the disturbed cardiac and respiratory action often observed during or after laparatomies. One of Rühl's cases occurred in an extremely nervous individual, the other in a patient of the opposite disposition.

CASE I.—A woman 34 years old had a subperitoneal fibroid of the fundus uteri removed by the vaginal route. The operation lasted forty-five minutes; during this time the patient's condition was excellent, the loss of blood trifling, and the patient was placed in the well-warmed bed with an excellent pulse and normal respiration. An hour later a pulse could not be found, the respiration was irregular and superficial, and she was covered with cold perspiration. Examination showed that hemorrhage was not the cause of collapse; therefore, thinking that heart failure was present, stimulants were injected, without apparent benefit. After the administration of morphine the patient expressed herself as feeling better; the pulse, although rapid and intermittent, gradually improved in character, as did the respiration. When the effect of the morphine had worn off the former symptoms returned, subsiding after another injection; convalescence was then undisturbed. This was clearly a case of purely nervous shock; the disturbed heart and respiration were not improved by stimulants, while morphine, which diminished the reflex impulses from the operative trauma, had an immediate beneficial influence.

CASE II.—A woman, æt 42, had a large, subserous fibroid fixed by numerous adhesions to the neighboring organs. The tumor and uterus were removed by laparotomy; the stump was treated extraperitoneally. Duration of operation, one and a quarter hours; pulse and respiration were normal when the patient was returned to bed. Two hours later she presented marked symptoms of shock. She complained of suffocation, but pain was absent, leading to the exclusion of reflex shock; but as free stimulation made the condition worse, morphine was given. She improved immediately; the pulse became stronger, dyspnea disappeared, and she soon expressed herself as feeling perfectly well; recovery ensued. This case also was considered to be due entirely to nervous shock.

Vesico-vaginal Fistula.—Two cases of vesico-vaginal fistula are described by J. R. Morison "as treated by the following operation. The patients were discharged cured in eleven and nineteen days respectively. A horseshoe-shaped flap is marked out on the anterior vaginal wall, the toe including the fistula, the heel, which forms the base of the flap, pointing to the cervix. The vaginal mucous membrane is divided along the marked line and the flap separated from the bladder wall by the finger or a blunt instrument, except where the fistula is surrounded by cicatricial tissue. The vesical opening is then closed by a fine continuous, silk, Lembert's suture holding the muscular coats only. The bladder being proved water-tight, the tip of

the vaginal flap, including the fistulous opening, is cut off and the remainder adjusted to the raw surface and held by interrupted catgut sutures. If the vaginal fistulous opening is too large to cut off, it should be closed by a continuous catgut suture before replacing the flap. The vagina is packed with gauze, a self-retaining catheter placed in the urethra and the bladder washed thrice daily for a week, the catheter and tampon then being removed.

Vaginal Cyst.—A cyst of the anterior vaginal wall, attached to the cellular tissue covering the bladder and resembling a cystocele, is reported by H. N. Vineberg.¹¹

Sarcoma of Vagina and Broad Ligament.—G. M. Edebohls¹² records the non-recurrence of sarcoma over three years after combined perineotomy and complete removal of the left broad ligament by celiotomy for this disease.

Vaginal vs. Abdominal Route.—M. M. Mironoff¹³ favors the vaginal route in gynecological surgery, and believes its indications should be extended.

E. B. Cragin,¹⁴ in reviewing the vaginal and abdominal sections, fifty-five of each, done in ten months, finds that by the vaginal route sepsis is diminished; intestinal adhesions, as indicated by abdominal pain and difficulty in moving the bowels, are less; shock is less severe; no hernia has been found in the large proportion of vaginal cases examined for that purpose. For controlling hemorrhage and the pedicle he prefers ligatures to clamps, using the latter only temporarily if more convenient, and, with rare exceptions, replacing them by ligatures. Catgut has been his only ligature material.

H. T. Hanks¹⁵ advises a vaginal operation for: (1) suppurative pelvic disease, if located in the true pelvis, when exudation covers and agglutinates the uterus, tubes, ovaries, and rectum; (2) ovarian abscesses; (3) unruptured tubal pregnancy, and ruptured tubal pregnancy in the broad ligament; (4) small ovarian and parovarian, movable cysts, and other small movable tumors; (5) movable uteri with small fibroids; (6) carcinoma uteri when the uterus only is involved.

Anterior Colpotomy.—E. Paquy¹⁶ thinks that anterior colpotomy cannot yet replace laparotomy. As a treatment for diseases of the uterus and appendages he believes it should be restricted to cases which have reached the menopause or in which bilateral castration is to be performed. During pregnancy following the operation we may find urinary difficulties and abnormal development of the uterus, the cervix being directed upward and backward above the brim, which may lead to abnormal presentations, usually of the shoulder. Labor is delayed by a cicatricial rigidity of the cervix which prevents dilatation, and may cause rupture of the uterus. The prognosis is grave for mother and child.

Uterine Fibroids.—L. R. Régnier¹⁷ believes that the electrical treatment of fibroids is indicated: (1) when accompanied by hydrorrhea; (2) when, accompanied or not by metrorrhagia, the fibroid exists in the presence of appendages which are

healthy, or, at least, contain no element susceptible of inflammation as a cyst, pus, or blood (certain sorts of hemorrhage, however, demand radical treatment: [a] in the case of large interstitial fibroids in which the dilated and indurated blood vessels open largely on the surface of an atrophied and degenerated mucous membrane; [b] when hemorrhage is due to a pediculated fibroid situated entirely within the uterine cavity); (3) electricity is also sufficient in tumors of small size which, however, cause difficulty in walking, trouble in micturition, pain, constipation, etc.; (4) large and even multiple tumors, if the appendages are in good condition, in order to avoid the risks of operation. The softer fibroids respond most quickly to electrical treatment. All causes of infection must be avoided and rigid antisepsis practised during the treatment and intervals. For these fibroids the resistance varies from sixty to one hundred ohms; for the hard tumors one hundred to three hundred, so the intensity in the latter cases should be as great as the patient can bear, at least one hundred and fifty to two hundred and fifty milampères. He describes fully the technique of galvano-cautery and galvano-puncture, including the class of cases best reached by each and the length and frequency of séances. In galvano-puncture the rectum and bladder may be avoided by never puncturing the anterior cul-de-sac, using only small trocars, never using a speculum when puncturing, carefully examining the point where the instrument is to be introduced, and making this as near as possible to the uterus as well as behind it and in the direction of its axis. He appends fourteen typical cases.

W. J. Gow* gives a careful and comprehensive outline of the various surgical procedures employed in the treatment of uterine fibroids.

H. Hartmann and R. Mignot,¹⁶ in studying a specimen of gangrenous suppuration of uterine fibromata unconnected with the uterine cavity, are led to believe that the gangrene and suppuration are due to the presence of a microbe which in this instance was anaerobic, and has been found by them also in a suppurating vaginal cyst, in an encysted peritonitis originating from the appendages in a similar case by Morax, and in a Bartholinitis by Dujon. It existed alone and in small numbers on the uterine mucosa; alone, but very abundantly, in the pus of the capsules of the fibromata. Absence of periglandular embryonic infiltration, and the number of leucocytes situated along the vessels, seem to indicate that the infection was carried by lymphatics from the uterine mucous membrane.

G. Elder¹⁷ reports a successful supravaginal hysterectomy for large fibroids of the pregnant uterus. The patient had been in perfect health until her marriage three years before, and since with the exception of increasing constipation. The rapid growth of the tumor suggests its connection with her marriage.

In an editorial upon hysterectomy, Leith Napier¹⁸ says that he believes the future will show that operations for uterine fibroids should be undertaken earlier than heretofore. In suit-

able cases the mortality of the vaginal operation for fibroids should not be more than three to five per cent. In many cases extraperitoneal hysterectomy will still be practised. It should be the operation of election for beginners. Every fibroid uterus demands separate and special study. No one operation is universally best.

W. M. Polk,* in describing the technique which he employs in hysterectomy for fibroids, carcinoma, and in pregnancy, speaks of the necessity for early operation for cancer of the uterus before the lumbar glands become involved. In the radical operation he ligates the anterior trunk of the uterine artery before removing the upper portion of the vagina and surrounding cellular tissue. He notes that in all cases the uterus receives a vessel below the utero-sacral ligament, a branch of the middle hemorrhoidal.

Three total hysterectomies for myomatous uteri are recorded by Scharieb.[†] All recovered.

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DISEASES OF CHILDREN.

Anophthalmia and Epicanthus of Both Sides.—V. Lafosse describes a congenital case seen in a child $2\frac{1}{2}$ years of age. The child is intelligent, but remains immovable in whatever position it is placed. The mother has congenital absence of the right globe.

Bony Cavities, Refilling of.—E. Sacchi* describes the case of a girl of 12 years who, seven years previously to his seeing her, had had an operation performed in the mento-nasal region for a necrosis of a portion of the ascending ramus of the maxilla. As a result of the operation there was a cicatrix and a cavity two-fifths of an inch long, seven twenty-fifths of an inch wide, and six twenty-fifths of an inch deep. The base of the cavity was formed of compact fibrous tissue, the superficial part covered with a layer of cicatricial tissue. The patient was anesthetized and an incision made through the skin adherent to the bony margin of the cavity. With a Volkmann spoon the cavity was scraped, and the osteo-periosteal detritus thus obtained was packed in the bony cavity so as completely to fill it. The skin was sutured above this detritus. Four months

later the cicatrix was scarcely visible, the skin was freely movable, while beneath it the previously existing cavity was completely filled with hard, osseous tissue, and the deformity was perfectly corrected.

Clubfoot.—M. P. Reynier¹ says that the clubfoot of infantile paralysis, by reason of its pathogenesis, its pathological anatomy, and its treatment, holds a place of its own in nosology. It is caused by a lesion of the anterior cornua of the spinal cord, which preside not only over motion, but over the nutrition of the tissues; according to the extent and depth of the lesion we have complete and incomplete paralyses. In the former arthrodesis is the only resource; in the latter it would be the death sentence of all the muscles which move the foot. These muscles might by appropriate exercise regain some of their power. Astragalectomy is the operation to be favored. It gives excellent results in the varus equinus of partial paralysis. Bilhaut² sums up an interesting article upon the subject as follows: 1. Paralytic clubfoot, whether or not consecutive to anterior poliomyelitis, may become complicated by alterations of the bony skeleton. In these cases the difficulty in reduction depends rather upon the bony lesion than upon the ligaments or upon retraction of the soft parts. 2. In the course of time the clubfoot becomes more pronounced and the deviation permanent. 3. Bone affections are especially marked if the patient has had paralysis in his early years and if no active treatment has been applied to the deformity for a sufficient length of time. 4. Whatever the age of the patient or nature of the paralysis, treatment should be prompt, and should consist in reduction of the deformity and in the use of orthopedic appliances to keep the foot in proper position. This is the only way to prevent involvement of the bones. 5. Early manual correction of the deformity is usually sufficient, but chloroform may have to be given and tenotomy performed. 6. Irreducible clubfoot must be carefully examined, and it may call for Phelps' operation or incision of the plantar aponeurosis of the retracted tissues and even of the Y-ligament. 7. Only such tissues as by their retraction interfere with a return to the normal position are to be incised, but we must not stop short of perfect correction of the deformity. 8. In some cases astragalectomy and cuneiform resection of the tarsus will have to be resorted to.

Diagnosis of Diseases of Infants: Treatment of Enteritis.—A clinical lecture by E. P. Davis.³

Diarrhea.—O. Reinach⁴ gives two main indications in the treatment of summer diarrhea of infancy: 1. To counteract inspissation of the blood. 2. To give the diseased intestine rest for several days. He adds, by way of a third indication: Some method of administering nourishment other than by mouth or rectum. Subcutaneous serum injections are suggested, by which all three indications would be met. Fifteen cases have been treated by this method at the children's clinic of the University of Munich under the direction of Prof. Ranke, the sterile serum of healthy cows being used. Further observations will

be made upon this subject. H. M. McClanahan ' says that the cause of this disease is the ingestion of infected food—usually milk. The cardinal principle in the treatment of the disorder is to stop the supply of food ; remove the poisons from the stomach and bowels ; neutralize as far as possible that which cannot be removed ; and to treat the important symptoms. J. A. Hayward ' is satisfied that diet and drugs based on antiseptic principles are of distinct use in many cases of subacute and chronic diarrheas and in many cases of acute gastro enteritis. Whatever antiseptic is adopted, it should be administered in small and frequently repeated doses.

Diphtheria.—J. Madison Taylor ' reports a case of laryngeal diphtheria of gradual onset in a two-year-old child. Intubation was performed. There was a complication caused by hernia of the right lung due to parting of the fourth rib from the costal cartilage ; recovery. G. Variot " gives the result of experimentation with Marmorek's serum upon twenty cases, and his verdict is that it is not only useless but dangerous. Its administration was followed by an elevation of temperature, by prostration, and by pus collections just beneath the skin of the abdomen, and this in spite of every known antiseptic precaution. He has altogether abandoned its use. B. M. Bolton " gives a review of the theories of serum therapy. F. A. Packard " reports a case showing a rapidly favorable result from the use of antitoxin. The change in the general and local condition within a few hours after injection of the remedy was too marked to leave room for doubt as to the specific benefit of the use of the antitoxin. L. Fischer ' says : Inject without delay as soon as the diagnosis is made, and repeat in twenty-four hours if no relief is obtained. We must bear in mind the danger of injecting air into a vein. Every case with a tube in the throat should be fed per rectum, in order to avoid food-pneumonia. Dyspnea in an intubated child is often relieved by inhalation of oxygen. The author always gives an antipyretic bath when the temperature is as high as 105°. Other forms of treatment should be continued ; especially should the heart be sustained. J. W. Steckler " believes antitoxin to be of use when the heart's action is good, the system not impaired in tone, the kidneys in normal condition, and no albumin in the urine. When contrary conditions obtain the serum is contraindicated. A. d'Aguanno " reports a case of primary laryngeal croup in a child of 15 months cured by the use of serum therapy plus intubation. Massei, he says, reports ten cases of croup intubated and treated at the same time by antitoxin, with eight recoveries. This is a fine result when one considers that many of the cases were in the stage of asphyxiation when first seen. Henry Jackson " gives a report of the methods of nasal feeding in diphtheria in the Boston City Hospital. In every case where intubation is necessary the child is fed by liquid nourishment introduced by a catheter passed into the stomach through the nose. Nutrient enemata in many, and perhaps most, cases fail. By means of the nasal feeding a known and

sufficient amount of food and stimulant is given. A. Whitehead " reports six cases of diphtheria successfully treated by intubation and antitoxin. G. Reid " discusses the difference between infectious sore throat and diphtheria. Buys " tells of a child of 6 years who had a hard cold in the head seven weeks previously to his seeing it. There was a little general disturbance and it stayed away from school three days only. A nasal obstruction remained, accompanied by a little mucous flow, night sweats, and feverishness. An examination of the mucus revealed many typical Klebs-Löffler bacilli, and a ten cubic centimetre culture of them killed a guinea-pig on the fourth day after inoculation. E. F. Ingalls " says that the reports of clinical investigation, taken as a whole, are considerably in favor of the antitoxin treatment, although there is still some scepticism. It is well known that the mortality in diphtheria varies from ten to seventy-five per cent in various epidemics and in different portions of the same epidemic; therefore accurate information cannot possibly be obtained by comparing the death rate of any one year with that of the preceding year. Until in the large hospitals alternate cases are treated by antitoxin alone and by other methods, we shall have no certain information on the subject. C. T. McClintock " expects to note a very great diminution in the annoying sequelæ due to the use of the stronger serums. He believes that it is better to give smaller doses of antitoxin at more frequent intervals than is usually done, as the toxin is produced, not all at once, but continuously throughout the course of the disease. He thinks that though antistreptococcus serum is still in the experimental stage, the outlook is very promising. E. L. Larkins " has an article upon the use of antitoxin in the treatment of diphtheria and membranous croup. He gives a collected report of one hundred and thirty-two cases with eighteen deaths. In eight of the cases there was membranous croup with six recoveries. In twenty-nine cases the membrane extended from the fauces to the larynx; in these there were five deaths; intubation was performed seven times with three deaths. There was extension to the nares in eighteen cases with eight deaths. B. M. Bolton " says that in five hundred and fifty-seven cases diagnosed as diphtheria a bacteriological examination showed the presence of the bacillus in five hundred and seven, or ninety and two-tenths per cent. In one hundred and forty-eight cases the physician stated that the disease was not diphtheria. The Klebs-Löffler bacillus was found in forty of these cases, the clinical and bacteriological diagnosis agreeing consequently in seventy-two and nine-tenths per cent. Cultures taken in two hundred and fourteen cases from the throats of persons who had been exposed to diphtheria, but who presented no clinical symptoms, showed the presence of the bacillus in eighty-nine, or forty-one and a half per cent. L. F. Flick " reports good results from the use of calomel. The drug is rubbed with sugar of milk and placed dry on the tongue; one-sixtieth of a grain is given every fifteen minutes. S. W.

S. Toms" gives eight cases of membranous angina simulating diphtheria, the diagnosis being corroborated by a bacteriological examination. The cases were marked by the absence of profound constitutional toxemia, prostration, cardiac complications, albuminuria, abortion, or local sequelæ other than paralyses. He believes that the disease is caused by emanations due to putrefaction, decomposition, and fermentation from filthy out-houses, sinks, and cesspools. M. Sevestre" reports the statistics of diphtheria in the Hôpital des Enfants Malades in 1895. Each patient, as soon as it entered the hospital, was given an injection of Roux's serum, twenty cubic centimetres at first, sometimes only ten cubic centimetres, sometimes thirty, according to the severity of the case. It was not usually found necessary to repeat the dose. The throats were swabbed out with Labarraque's solution, one to twenty, tonics administered, and a suitable diet given. Complicating diseases were appropriately treated—as, for instance, calomel was given in gastric or intestinal troubles, benzoate of soda for croup or bronchitis, and cold baths in broncho-pneumonia. In children who were profoundly infected injections of caffeine or artificial serum (sodium chloride seven to a thousand) were given. The statistics as compared with other years are the following:

Year.	Entered.	Deaths.	Per cent of mortality.
1890	1,002	560	55.88
1891	957	508	52.56
1892	997	475	47.64
1893	1,015	492	48.47
1894	1,042	226	21.68
1895	1,140	158	13.85

Seventy-one of the patients in 1895 died within twenty-four hours of their arrival, having been brought to the hospital in a moribund condition. This reduces the mortality to eight and thirteen-hundredths per cent. E. Rosenthal" has used antitoxin in one hundred and twenty-seven cases of diphtheria with a record of five deaths. As the character of these cases was in many instances of the most dangerous variety, and in nineteen cases necessitated intubation, the results obtained are ascribed to the specific action of antitoxin. The author gives a complete analysis of these cases, the locality, the ages of the patients, ages at which deaths occurred, time of injections, etc. The usual sequelæ occurred. In favorable cases the pulse rate declines and assumes the normal. If the rate increases again it is an indication for the administration of more antitoxin. In laryngeal cases the pulse rate remains high. The extension of membrane is limited and separation promoted. Of the author's forty-four cases of laryngeal diphtheria sixteen necessitated intubation. The average time for wearing the tube was one hundred and sixteen and twenty-five-hundredths hours against the record, previous to serum treatment, of one hundred and eighty-five and twenty-five-hundredths hours. There was a mortality in these cases of only ten and five-tenths per cent. Antitoxin limits the duration of the disease to four or five days. Elmer

Lee¹¹ has an article entitled "The Fallacy of Antitoxin Treatment as a Cure for Diphtheria." He believes that practical medicine has been both aided and retarded by the discovery of the bacteriologists that makes necessary two varieties of diphtheria—clinical and bacteriological. The so-called specific germ is found upon the tonsil both in health and disease. Is it therefore a reliable means of determining the diagnosis of diphtheria? In diphtheria there are two therapeutic measures which are imperatively demanded—the supply of new force to the tissues by fresh nutrition, and the aid to the impaired efforts of the organism to remove the morbid and retained matters. At this moment what is accomplished by forcing into the circulation a substance which has no natural relationship to the structure of a single element of the body? The claims that cases recover more quickly, that the death rate would be lessened, and that no harmful effects would follow were antitoxin to be used, have proved disappointing. A. M. Thomas¹² gives an account of antitoxin immunization observed during an epidemic of diphtheria at the Nursery and Child's Hospital. The number of children immunized was one hundred and thirty-six. The ages of the patients ranged from 3 weeks to 4 years, and the number of antitoxin units varied from fifty to two hundred according to the age. In four cases faint traces of albumin were found in the urine, but in no case did it persist more than three or four days, nor were there any indications of any special disturbance of the kidneys. In three cases eight days after the injections, and in four cases nine days after the injections, there was an eruption of erythematous patches. In no case was the eruption associated with fever. In sixty-nine cases the temperature rose within twelve hours to from 100° to 103° F., but within the next twenty-four hours it had in all these cases virtually fallen to the normal. In young infants and in those in a debilitated condition there was more or less reaction, manifested by a rise of temperature, crying, restlessness, and sleeplessness; while in the older and stronger patients there was little reaction. No new case broke out after the children were immunized, although one of the physicians and a nurse, neither one of whom had been immunized, were attacked by true diphtheria. J. E. Winters¹³ gives a report of clinical observations upon the use of antitoxin in diphtheria, and a report of personal investigation of this treatment in the principal fever hospitals of Europe during the summer of 1895. He believes there is a great limitation to the application of Behring's remedy to diphtheria in man, because we can never apply the antitoxin at the site nor at the moment of infection. He also believes that if antitoxin is a specific the reported decrease in mortality should be uniform and constant, and below the lowest mortality recorded in the natural history of the disease in any part of the world; otherwise the variations of mortality may be said to be due to the epidemic character of the disease. The most misleading part of the antitoxin literature is the constantly quoted percentage of mortality. The

mortality from diphtheria in Boston in 1895 was fourteen and forty-eight-hundredths per cent, in 1893 thirty-two and forty-nine-hundredths per cent; and yet there were one hundred and twelve more deaths from diphtheria in Boston in 1895 than in 1893. This reduction was due to the fact that in 1895 four thousand and ninety-five cases were reported, and there were only one thousand four hundred and sixty-five cases reported in 1893. From this it is readily seen that the percentage of mortality is misleading and worthless unless accompanied by the actual number of cases reported and the actual number of deaths. The report must also include a series of years, in order to enable the reader to compare present results with the results in previous years when there was a mild type of the disease. Several observers have reported a higher mortality in their experience since using antitoxin than before. The author then cites forty-one cases treated in the Willard Parker Hospital which were brought under treatment on the first or second day of the disease. They had full doses of the supposed specific, yet he does not find a single statement recorded in the clinical history of these cases which would indicate that the remedy had modified in any particular a single manifestation of the disease, either in the laryngeal or non-laryngeal cases. In discussing the injurious effects of antitoxin the author gives a number of instances, recorded by competent observers, in which the agent caused death or gave rise to dangerous complications. The percentage of mortality in the Willard Parker Hospital in 1895 is misleading, owing to the mild character of many of the cases. Every practitioner knows there was much less real or clinical diphtheria in 1895 than in 1894, and yet as the result of bacteriological diagnosis one hundred and twenty-four more cases were received into the hospital in 1895 than in 1894. In the same hospital the records show that the mortality in children of 2 years and under was fifty-one and a half per cent in 1894 without antitoxin, and sixty-two and one-tenth per cent in 1895 with antitoxin. The author then gives reports from several hospitals which tend to disprove that any advantage has been derived from the use of antitoxin. To these reports are added notes based on the experience of many physicians in private practice, and the conclusion drawn from them is that proof is lacking of the value of the serum treatment in diphtheria. W. H. Thomson" discusses the way in which facts about the antitoxin treatment of diphtheria should be estimated. There are elements of uncertainty connected with therapeutics, especially in the treatment of acute infectious diseases. One is that most acute infectious diseases run a certain course and naturally end in recovery without treatment. Another factor is the diagnosis, especially in diphtheria, as here it is claimed that conclusions not verified by bacterial cultures are unreliable. Again, how are we to distinguish at the onset between the mild cases which get well without help, and the severe cases which so often prove fatal? Another factor is that pathogenic microbes themselves change in degrees

of virulence within such wide limits that uncertainty arises from this source alone. Still another element in the course of these diseases (notably of diphtheria) is what is termed polymicrobial infection. Lastly, the time of the administration of a remedy should not be lost sight of. Decisions on therapeutic matters, including the use of antitoxin, must rest on the question of comparative success. Failure of a therapeutic agent is, *per se*, no proof that it is not a remedy. Quinine, vaccination, and mercury often fail to cure or prevent disease, yet we would not question their value. In the same way, the failure of antitoxin to cure in some cases does not disprove its usefulness in the face of the great mass of testimony which is steadily accumulating, especially from private rather than from hospital sources. J. W. Brannan " gives a critical analysis of Dr. Winters's clinical observations on the antitoxin treatment of diphtheria. The object of the article is to prove that the children in the Willard Parker Hospital have not been injuriously affected by the administration of the antitoxic serum, as had been alleged by Dr. Winters. Incidentally it is demonstrated that the position of Dr. Winters in regard to antitoxin does not stand the test of critical examination. W. L. Stowell " discusses the treatment of diphtheria with and without antitoxin. From March, 1888, to March, 1895, the author treated at the Demilt Dispensary one hundred and seventy-six cases of diphtheria without antitoxin. The mortality in these cases was thirteen and six-hundredths per cent. During the year from March, 1895, to March, 1896, he treated sixty-four cases with five deaths, a mortality of seven and eight-tenths per cent. The mortality in the two hundred and forty cases was eleven and a quarter per cent. This compares favorably with the report of the health inspectors, who treated two hundred and fifty-five tenement-house cases with antitoxin with a mortality of fifteen and sixty-nine-hundredths per cent. The study by the author of his own and others' cases convinces him that diphtheria is very variable in extent and severity, both epidemically and clinically; that the diagnosis of true or false diphtheria requires as much care bacteriologically as clinically; that the unusual number of cases reported is in part due to bacterial cases without symptoms and the general alertness of physicians now to report suspicious cases; that the same causes plus elimination of hopeless and moribund cases from the treatment give the apparently low ratio of deaths; that cleanliness and ventilation will immunize as well as the hypodermatic serum. Selected cases and faithful treatment of any reasonable kind lead to success. P. H. Ernst " gives his experience in the treatment of diphtheria with and without antitoxin. Since May, 1895, he has treated in private practice and as visiting physician to the Demilt Dispensary seventy-seven cases of diphtheria. Of these twelve were treated with antitoxin and sixty-five without. In most instances the sanitary surroundings and nursing were often of the very worst. Of the cases treated with antitoxin, eight were severe and four

mild in character ; four were intubated, one of whom died. The mortality in these twelve cases was fifty-eight per cent. Of the sixty-five cases treated without antitoxin, forty-two were of a severe form ; eleven patients were intubated, with four deaths. Of the total number treated without antitoxin there were eleven deaths, a mortality of seventeen per cent. The author thinks that the antitoxin patients who recovered had a more protracted convalescence, the anemia especially being more marked and less amenable to treatment than in those who recovered without antitoxin. G. T. Mundorff " reports a case of severe post-diphtheritic paralysis in an adult treated by antitoxin. He is not certain that the quick recovery was due to the antitoxin. An editorial " concludes, from the literature of fatal cases observed during the employment of antitoxin, that we have to do with a dangerous remedy in spite of the fact that concomitant phenomena do not occur in the majority of cases. The immunizing action of antitoxin has been definitely settled in the negative by sufficiently numerous failures to protect W. Vissman " believes it not altogether improbable that diphtheria antitoxin will meet the fate of tuberculin. It is not just to compare diphtheria with small-pox, but if this is demanded it shall be done. That one attack of variola gives almost permanent immunity to subsequent attacks of the same disease is well known ; but that an attack of diphtheria predisposes to another is just as well known, and no one would think of vaccinating a small-pox patient with the hope of mitigating the course of the disease. Vaccination has not only reduced the number of deaths from variola, but has also caused a diminution in the number of cases. This cannot be said of antitoxin. The percentage of mortality in cases of diphtheria reported to the health authorities of New York, Brooklyn, and Boston is very much reduced, but this is probably due to the increased number of cases reported ; for there were more cases reported in each of these cities in 1895 than during any year as far back as 1880. The largest number of deaths in each city is reported in 1894, yet the report shows that the percentage of mortality was lower in this year than in any since 1880. In taking the average number of deaths for fifteen years from the beginning of 1880 and comparing with the number of deaths in 1895, the following will be found :

Average number of deaths	New York.	Brooklyn.	Boston.
From 1880 to 1895.....	1631½	824½	452½
Deaths reported in			
1895	1634	1139	588

In comparing the proportion of the communities succumbing to the disease, about the same condition is found:

Average percentage of inhabitants dying from diphtheria,	Boston.	Brooklyn.	New York.
From 1880 to 1895.....	0.1095	0.1024½	0.1084½
1895.....	0.1173	0.1035	0.0873

Were this percentage in New York extraordinarily low, antitoxin may still be credited ; but the following years, in

which antitoxin was not used, had a lower rate of mortality: 1892, 0.0785; 1891, 0.081; 1890, 0.0774; 1884, 0.0801; 1883, 0.0772. J. L. Kortright²² believes that it is not the decreased death rate alone that shows the value of a remedy. Even if the death rate were unchanged a remedy would be valuable if it modified the severity of the disease, shortened convalescence, and diminished the frequency of complications. All these things antitoxin does in diphtheria. With antitoxin the prognosis seems to depend not so much upon the appearances within the throat as upon the amount of swelling in the neck. If the swelling be circumscribed—i.e., limited to the lymph nodes—the prognosis is good. While caution is necessary in the use of antitoxin, the risk is not great. The author, however, questions the wisdom of using the agent for immunizing purposes. An editorial²³ says that it is fair to state that upon the question whether or not antitoxin is valuable in diphtheria rests the whole theory of serum treatment in infectious diseases. The conviction cannot be resisted that the great preponderance of professional opinion is strongly in favor of the method. Notwithstanding, however, the large number of statistics already collected, we are not yet prepared for final conclusions. Bacteriology, pure and simple, has appropriated more than its just share of credit in the present aspect of the question, and there is no doubt of a desire among the very active workers in this promising field of investigation to still more magnify the importance of their researches at the expense of clinical experience, upon which, after all has been said and done, the practical use of every therapeutic measure must rest. In order to obtain an expression of opinion from American physicians as to the serum treatment, a circular letter was issued by the committee of the American Pediatric Society²⁴ early in April, 1896. The first surprise of the committee was in learning how very widely the serum treatment had been employed. After leaving out all doubtful cases there are left three thousand three hundred and eighty-four for analysis, which have been observed in the practice of six hundred and thirteen physicians living in different parts of the United States and Canada. In the general opinion of the reporters the type of diphtheria during the past year has not differed materially from that seen in previous years, so that it has been average diphtheria which has been treated. In addition to this material which has come in response to the circular, there have been placed at the disposal of the committee nine hundred and forty-two cases treated in the homes in the tenements of New York. . . . An unusually large number of them (thirty-eight per cent) were injected on or after the fourth day of the disease. In one hundred and eighty-two of these cases, only the tonsils were affected; in four hundred and sixty-six, the tonsils with the pharynx or nose, the pharynx and nose, or all three; in two hundred and ninety-four the larynx was invaded, either with or without disease of the tonsils, nose, or pharynx. The committee was able to include a report upon one thousand four hundred and sixty-eight cases from

Chicago. The grand total gives five thousand seven hundred and ninety-four cases with seven hundred and thirteen deaths, or a mortality of twelve and three-tenths per cent. Of these cases four thousand one hundred and twenty received the injection during the first three days, with three hundred and three deaths, a mortality of seven and three-tenths per cent. The good results obtained in third-day injections were a great surprise to the committee. But after three days have passed the mortality rises rapidly. It must be said, however, that a striking improvement has in some cases been seen even when the serum has been injected as late as the fifth or sixth day. Of the three thousand three hundred and eighty-four cases reported by letter, the larynx was involved in one thousand two hundred and fifty-six instances, or thirty-seven and five-tenths per cent. In six hundred and ninety-one no operation was done, and in this group there were one hundred and twenty-eight deaths. In five hundred and sixty-three cases, therefore, or sixteen and three-tenths per cent of the whole number, there was clinical evidence that the larynx was involved and yet recovery took place without operation. In many of these cases the symptoms of stenosis were severe, and yet disappeared after injection without intubation. No one feature has excited more surprise among the physicians than the prompt arrest, by the timely administration of the serum, of membrane which was rapidly spreading downward below the larynx. Operations were done in five hundred and sixty-five of the laryngeal cases, or in sixteen and seven-tenths per cent of the whole number reported. Intubation was done five hundred and thirty-three times with one hundred and thirty-eight deaths, or a mortality of twenty-five and nine-tenths per cent. In thirty-two tracheotomy was performed with twelve deaths, a mortality of thirty-seven and four-hundredths per cent. Of the two thousand eight hundred and nineteen cases not operated upon, there were three hundred and twelve deaths, a mortality of eleven and three-tenths per cent. Sepsis is stated to have been present in three hundred and sixty-two cases, or ten and seven-tenths per cent. It was present in thirty-three per cent of the fatal cases. Broncho-pneumonia occurred in five and nine-tenths per cent. There is very little, if any, evidence to show that nephritis was caused in any case by the injection of serum. The number of cases of genuine nephritis was ten per cent. There were fifteen fatal cases in which the renal disease was stated as the cause of death. As against two or three instances in which the serum is believed to have acted unfavorably upon the heart might be cited a large number in which there was a distinct improvement in the heart's action after the serum had been injected. The effect of the serum on the nervous system was less marked than upon any other part of the body; paralytic sequelæ were recorded in nine and seven-tenths per cent of the cases. S. S. Adams¹² has an article on the comparative results of the treatment of diphtheria, with and without antitoxin, in the District of Columbia. The

report comprises one hundred and seventy-six cases treated with antitoxin, with a mortality of fourteen and seventy-seven-hundredths per cent; one hundred and thirty-five cases were treated during the same period without antitoxin, with a mortality of thirty-four and eighty-one-hundredths per cent. A. C. Dogge² reports a case in which death followed a few minutes after the injection of antitoxin. Aseptic precautions had been taken, and the patient was in very good condition previous to the puncture.

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ITEM.

THE NINTH ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS will be held at the Hotel Jefferson, Richmond, Va., Tuesday, Wednesday, and Thursday, September 22d, 23d, and 24th, 1896.

The proprietors of the "Jefferson" offer special rates to the Fellows of the Association, their families and guests, as well as to any physicians who come to attend the meeting. It is confidently expected that the railways will offer transportation at a uniform rate of a fare and a third to all in attendance on the certificate plan. Let all obtain certificates from their local ticket agents, or from the nearest point where certificates are granted.

The Association will meet in executive session, with closed doors, on Tuesday, September 22d, at 9:30 o'clock A.M., for the election of new Fellows. The open session for the reading of papers will begin at 10 o'clock A.M. Recess for luncheon at 1 o'clock P.M. Afternoon session at 3 o'clock. An evening session will be held Tuesday at 8 o'clock.

Morning session will begin Wednesday at 9:30 o'clock for the reading of scientific papers. Recess at 1 o'clock. Afternoon session at 3; adjournment at 5. Executive session at 6:30. Annual dinner at 8 P.M.

Thursday morning the session will begin at 10 o'clock. Recess at 1. Afternoon session at 3; final adjournment at 5. It is requested that a full attendance be present at the final session. A large number of valuable and interesting papers will be read, and the meeting promises to be most successful.

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ORIGINAL COMMUNICATIONS.

SOME POST-OPERATIVE RESULTS OF GYNECOLOGICAL
SURGERY.¹

BY

I. S. STONE, M.D.,
Washington, D. C.

MANY physicians and surgeons are propounding the question, "How many of those subjected to the knife for pelvic disease are really cured?"

It should be the object of a society such as this to ascertain all the facts and be ready with an answer. It would indeed be desirable that all of our cases recover fully and completely. but we must nevertheless admit that quite a large number do not regain the health which formerly blessed the now half-sick and half-well patient.

Let us briefly consider some of the hindrances to perfect recovery which occasionally follow in the wake of even fairly good surgery.

The successful surgeon who operates upon patients severely

¹ Read before the Washington Obstetrical and Gynecological Society, March 6th, 1896.

ill, who require prompt and skilful work to save the patient, has great satisfaction in the evidence of his skill as shown in the recovery of the patient. He quite naturally feels elated at his success, and probably feels renewed courage when called to his next important case. Let us suppose he has encountered a bad case of pelvic peritonitis with leaking pus sacs. Possibly he has had to repair a few weak points, or close actual rents in the bowel, or remove an inflamed and dangerous appendix. The patient had been watched by some physician, who gave the usual anodynes, douches, and applications of iodine. He finally grows alarmed at the quickened pulse, the high temperature and increasing pain, and sends for a surgeon in consultation. The surgeon cannot prolong a plan of treatment which has thus far failed and must necessarily fail of its object without removal of the *fons et origo* of the trouble. The operation is done with the full sanction of every one concerned. The danger is fully explained to the family, and the physician in charge feels glad to have some one share the responsibility with him. Need I say right here that the surgeon not only shares the responsibility with the physician, but in by far the greater number of instances assumes all or has all responsibility imposed upon him? But now the operation is done. The physician is generally present; he witnesses the work of the surgeon and has his private opinion as to the result. I know in a vast number of instances I have been told that it would be utterly impossible for the patient to live after such fearful pathological conditions had been revealed. But by good fortune (we will suggest) the patient recovers, so far at least as her life is concerned. The operation was of such character as to necessitate the use of a drainage tube; or the ligature was infected; or a small piece of infected ovary or tube was overlooked in the mass of dark, necrotic material removed. Or, again, the condition demanded a hurried technique; all of the adhesions could not be severed, or, if separated, rapidly reunited. Here lies a source of subsequent trouble. Happily not every case even of such nature as described above results in some annoying post-operative trouble, such as a sinus, fecal fistula, bowel adhesions, or ventral hernia. But unfortunately such cases furnish the vast majority of untoward results which are charged up against the surgeon who operated and against gynecological surgery in general. It is useless to talk about dividing the responsibility here. The surgeon has saved a life, but he gets no credit, or very little credit, for that, because of some annoying and more

or less persisting sequelæ. I am almost ready to say that all such patients declare they are sorry they were operated upon.

The results of operations upon the uterus and ovaries, so far as their functions are concerned, cannot be studied here, nor have I anything to add to what has already been said. That women do menstruate who have neither ovaries nor tubes is well known. I believe such cases continue in part because of a diseased endometrium, or perhaps the habit of the organ continues for a time after ovariectomy. So far as the neurotic or physical results go, there is nothing of recent date which may be said to add materially to former well-known observations. I also would say, *en passant*, that so far as the sexual sense is concerned, a majority of authors agree that it is diminished by castration. But from my own observations I can recall but few who consent that any change has occurred, unless it be that with the relief from pain has come greater enjoyment of the sexual act. I am assured by many women that their sexual sense has markedly increased. These observations cover several years, as my special work began nearly eight years ago. In concluding this part of his subject, the writer has but little to regret. His patients have generally been very ill or in urgent need of surgery, so that the post-operative neuroses were not considered of sufficient importance to influence a decision when a life was endangered.

Let us see how far we may prevent some of the unpleasant consequences of our pelvic surgery.

Pelvic Adhesions of Viscera.—Given a case of acute septic pelvic peritonitis, such as may follow puerperal or gonorrheal infection, we must have formidable adhesions between opposed inflamed surfaces both before and after operation. It is impossible to have one without the other. It is equally impossible to so thoroughly wash out the cavity as to prevent already inflamed and septic surfaces from uniting. It is the practice of some surgeons to dust raw surfaces with aristol powder; others pour sterilized oil over such surfaces—A. Martin, for instance; I have not learned how many imitators he may have. It may be considered an absolute certainty that such adhesions form and persist in a large proportion of cases. One has but to reopen any abdomen having sustained such a generous dose of sepsis as to endanger a life, and he will surely find the above statement not too strong. Many adhesions finally separate through the agency of peristalsis or by absorption or maceration. In this class I would place the traumatic or chemical

peritoneal inflammations, or those even in which the pus has become sterile through limitation of the existence of active micro-organic life. Finally, a careful division or classification of cases for operation will prove a factor in the elimination of these untoward results. A very large pelvic abscess promptly following an abortion may mean either gonorrhea or an invasion of streptococci. However this may be, we may expect a radical operation to be not only attended by great risk, but to be followed by adhesions and other dangers, or at least annoyances. The various methods, both radical and conservative, have been tried, with the result that it is a drawn battle between the two. There are but few men who would not open such a collection through the vagina and even remove a septic uterus if demanded, rather than open the abdomen and, in addition to the shock given the patient, add a dissemination of the infectious pus over the peritoneum. The best way to prevent peritoneal adhesions is to anticipate their formation by timely and judicious surgery. The best results may be expected after surgery which has prevented any pus or infected material from touching any portion of healthy peritoneum. If the abscess is large and the pus cannot be removed with the sac entire, it should be aspirated or caught by well-placed sponges, and, if in reach from the vaginal side, be washed through an incision in the vault of the vagina. Some method of saving the spread of infection to healthy intestinal or peritoneal surfaces should be practised.

Peritonitis.—Peritonitis, if local, may often subside without becoming general. If general no patient will recover. Removal of the cause, or even providing suitable drainage, often cures. If septic pus or serum is spread abroad over the omentum and generally over the peritoneum, irrigation will not prevent peritonitis. The cases said to have recovered from acute general peritonitis are questioned by most operators. My own mortality has been greatly diminished since the practice of flushing has been discontinued.

Descent of the Uterus.—Several of my patients, having been subjected to salpingo-oöphorectomy, have had a prolapse of the uterus, which in one or more instances has given the patient and family physician great anxiety. I have never heard of pain in these cases, but the women are nervous about it and either wear a pessary or want surgical relief.

Hemorrhage.—The surgeon who uses a clamp forceps for forty-eight hours in a vaginal hysterectomy feels quite satisfied to remove it, and rarely is the removal followed by hemorrhage.

But there are certain conditions of the blood which invite hemorrhage, as the following two illustrations show.

A lady had large pus sacs removed. Glass drainage tube used and removed in forty-eight hours. At end of fifth day a rapid fall of temperature, after a pretty high rise, was followed by a copious discharge of blood from drainage tract. The patient was apparently none the worse for the loss of blood, but rapidly went into pyemia and died at the end of the third week. Pyemia was due to hospital infection at time of operation.

Another and a recent case of vaginal hysterectomy for malignancy gave me great anxiety. Patient had slight symptoms of cholemia, mitral insufficiency, anemia, etc. After a careful technique, with ligatures of silk, and gauze packing which was removed by fifth day, the patient did fairly well until tenth day. A decided fall in the temperature to 96.5°, cold perspiration, etc., announced an internal hemorrhage. On opening the vaginal vault I found at least a pint of blood. The next day after washing this out a second attack occurred, which greatly prostrated the patient. After this, however, she gradually rallied, and is now well so far as the pelvis is concerned. In this case her anemia, the cholemia (although slight), and other signs of extension of the cancer give me reason to think the hemorrhage may have proceeded from the liver, or at least some point remote from the seat of the operation.

This topic of hemorrhage is too vast for consideration in a paper like this. I have therefore only called attention to what a competent surgeon may be confronted with. An allusion to what may follow careless or, worse, ignorant surgery will not be made.

Ventral Hernia.—I have at present two cases of enteroptosis following operations for extensive pus collections. One of these is after my own work; another followed that of other surgeons. In neither case can the surgeon be taken to task for the present unfortunate condition. The belly is pendulous. The abdominal wall is so thin as to suggest an atrophy of all the abdominal muscles. No operation will be of any service, as the viscera have become displaced and unduly press upon the abdominal wall. Some surgeons are laying aside the abdominal bandage after section, thinking that the proper exercise of these muscles gives better results than their fixation in a state of almost complete rest. A bandage worn for many months will not add to the strength of the abdominal wall. Its use is to be limited greatly.

Ventral hernia, in my experience, is the result of wound

infection or the use of some form of drainage. If we can do ideal surgery we should always have perfect results. If we can close the abdomen feeling assured that no hemorrhage will occur, that the bowel will not adhere to an infectious uterine cornu or has not been wounded so that a rupture may occur, we may use buried serial sutures, which will be far better than suture *en masse* in giving support to the wound. We must not forget, however, that no form of closing will prevent a hernia if there is wound infection. I have been greatly pleased with the subcutaneous closure of the wound *à la* Marcy, but I am more pleased with the results obtained from closure of the fascia without including the muscular fibres of the recti. If one should depend upon the closure of the fibres of the muscle alone he would have but a poor dependence. We therefore carefully close the stout, thick aponeurosis together, and invert it or cause it to overlap. Silk is equal and perhaps superior to any other substance for the peritoneum and fascia. It remains indefinitely in the tissues and is innocent if clean. Silver wire is used by some surgeons in addition to other suture material. Catgut is the equal of kangaroo tendon, if properly prepared, and leaves nothing to be desired for subcutaneous closure. The writer has adopted the plan of closing the fascia with silk or of using silver wire or silk in addition to through-and-through silkworm-gut sutures.

Intestinal Obstruction.—Perhaps we may all agree that in intestinal obstruction we have the cause of more mortality than from any or all other causes combined, so far as pelvic and abdominal surgery is concerned. The writer has never lost a case through peritonitis after pus surgery in which the bowels acted freely after operation. In some cases the great shock of prolonged operation appeared to paralyze the bowel, but in by far the greater number of cases death results from peritoneal adhesions which prevent peristalsis. It is impossible to obtain as good results from the administration of purgatives in a patient suffering from shock as in one who has never been subjected to prolonged operation or anesthesia. The patient who has had many inches of adherent and injured bowel repaired, or at least subjected to much manipulation, must have shock to some extent. It is these cases, in which the need of peristalsis is great, that we are so often anxious about, and it is these very cases which swell the mortality list.

I have reported all my cases of intestinal obstruction in various papers and before the Medical Society of the District of Columbia.

In one a congenital stricture of the large bowel was found post mortem. This patient also had a bad kidney. Another patient died from obstruction due to a fibroid which I ought to have removed but took away only the appendages. The tumor acted as a ball valve, and the enemata given increased the distension already existing and which they were intended to remove. The writer has observed that in extensive omental adhesions to pelvic viscera a displacement downward occurs, of large bowel and stomach, which appears to bear some relation to the nausea and vomiting, if not to the obstruction, after operation.

It is unnecessary to give further space to the consideration of methods of treatment, as there is nothing so good for this undesirable result as the prevention of the accident by good surgical technique.

Infected Ligatures.—A sinus may continue indefinitely from an infected ligature. The silk may never be absorbed. It may escape in various ways from the body, as through the bladder, vagina, or bowel. A septic silk ligature may become the centre of an abscess which resembles pyosalpinx so closely as to defy a discriminating diagnosis. We have operated for and removed such a ligature from a space between the left broad ligament and the sigmoid. The ligature had cut through a pyosalpinx (leaving a stump fully an inch long), had become infected and set up suppuration. The writer has also tried and occasionally succeeded in extracting the silk, but finds it a very difficult procedure. It is perhaps, in certain instances, best to remove the uterus or do an anterior colpotomy. Removal of pus sacs without rupture, when feasible, will prevent infected ligatures, sinuses, etc., in a vast majority of instances.

Leaving Portions of Organs, etc.—An unpleasant after-effect will occur in some cases where we have an apparently healthy ovary or tube. Or in some cases we have time only for the removal of the adnexa of one side, leaving the other side until the patient is better able to bear operation. It has been a hard task for the writer to subject the women to the ordeal of a second operation, especially when they have greatly improved and wish to waive the ordeal, at least temporarily. These women sometimes pass on to other surgeons and do all the mischief they can by underestimating the work previously done for them. I have recently seen a good deal of this fault-finding, and never allow it to influence me away from a deliberate judgment.

I have heard much about doing ideal surgery from all sources, but the best living surgeons occasionally leave a diseased ovary, tube, or other organ because they believe the patient cannot bear any further traumatism or anesthesia. We may, therefore, occasionally be obliged to leave an operation only partially completed.

Psychical and Neurotic Results.—The writer has not the time to even summarize this important branch of the subject. In several papers read before state and national societies he has thoroughly discussed this subject, and a whole evening could profitably be spent in hearing results of personal experiences of members of this Society. The few patients operated upon by the writer for insanity, or which were followed by insanity, are comparatively unimportant, taken separately. So far as operations for neurasthenia go, they are very unwise. *For pain only, I never operate upon the ovaries.* When a mistake is made and their appearance does not show great and marked degenerative changes, they should be returned to the abdomen. Exploratory operations are often indicated, but one requires some experience and courage to not do more than is required in some of these instances.

Fecal Fistula.—It is impossible to prevent the formation of a fecal fistula in some instances. Good surgery may minimize the danger or prevent the accident in most cases. But we must not forget to provide drainage in these cases, so that the exit of fecal matter can be safely made. Finally, nearly all of these cases fully recover, so that they do not remain to permanently remind the patient of her surgical misfortune.

In conclusion, want of space forbids more than mention of various minor post-operative results. Some of these defy treatment. The irritative leucorrheal discharge; the irritation of the bladder, amounting to ureteritis or cystitis in some instances; the various and innumerable manifestations of neurasthenia; and the neuroses due to the induced menopause, require great patience and tact on the part of the physician for their proper estimation and treatment. It is quite too early for us to agree that movable kidney is a result of either gynecological disease or its surgical treatment, although many of these women have nephroptosis.

VAGINAL HYSTERECTOMY.¹

BY

WILLIAM H. WATHEN, M.D., LL.D.,

Professor of Abdominal Surgery and Gynecology in the Kentucky School of Medicine ;
Fellow of the American Gynecological Society and of the Southern Surgical
and Gynecological Society ; Gynecologist to the Kentucky School of
Medicine Hospital and the Louisville City Hospital, etc.,
Louisville, Ky.

WHILE it is true that many diseased conditions in the pelvis and lower abdominal region, formerly treated surgically by the suprapubic method, are now treated per vaginam, it is not true, as may be inferred, that there is any antagonism in the choice of these methods. There are excellent surgeons who prefer one method to the other, but this does not indicate that many diseases cannot be treated equally well by either method. The selection of the vaginal route depends upon the diseased conditions to be treated and the aptitude and experience of the operator. One surgeon, because of the excellence of his technique and his broad experience, will do better work per vaginam, and *vice versa*. Most tumors arising in the abdominal cavity or extending high up into the abdominal cavity may be more easily and more successfully removed by the suprapubic route, but it is equally true that nearly all pathological conditions within the pelvis not extending to abdominal structures, and some tumors arising in the pelvis but extending into the abdominal cavity, may be more successfully operated upon per vaginam.

Since extended experience has convinced vaginal hysterectomists that many diseases in the pelvis may be successfully treated without removal of the uterus, sometimes leaving the ovaries and tubes of both sides, this conservative principle should be of great practical value in preserving the generative organs of women. If the uterus is capable of bearing children it should not be removed for any disease where the tube and ovary on one side may be preserved in a practically normal condition ; and there are many cases where this can be done by operating per vaginam. Unilateral pus tubes firmly adherent, small myomatous tumors in the broad ligaments or in the ante-

¹ Read before the Kentucky State Medical Society, June 11th, 1896.

rior or posterior uterine wall near the cervix and not extending to the mucosa, extrauterine pregnancy in the early months, and small ovarian, parovarian, and intraligamentous cysts, may be removed through the anterior or posterior vaginal fornix without serious injury to the uterus and without removal of both adnexa, the patients making uninterrupted recoveries. There is no case of pus in the pelvic cavity where the adhesions do not extend high up in the abdomen, reaching the appendix, etc., that cannot be treated as successfully per vaginam as by the suprapubic method, and in most cases the operation is less dangerous, convalescence more rapid, and there are fewer post-operative complications.

The argument against vaginal hysterectomy based upon the belief that pelvic adhesions cannot be separated because they cannot be exposed, is erroneous, for experience has proven the contrary. Nearly all adhesions in the pelvis that should be separated can be brought within view as perfectly by the vaginal as by the suprapubic method; and where the pus is not confined to the tubes, so-called encysted peritonitis, with layers of intestines matted together by inflammatory exudations, shutting off the pus from the abdominal cavity, it is better that no attempt be made at separating the adherent intestines, for they are often so evenly arranged that the feces and gas will pass uninterruptedly, and the vaginal operation will symptomatically cure these patients. These are the cases that usually recover in vaginal hysterectomy, but if operated upon through the abdomen the peritoneum is necessarily soiled, and if the pus is virulent there is the probable danger of sepsis. But, barring the danger of sepsis, the intestines may be torn in efforts to break up adhesions, or, if successfully broken up without injury to the bowels, the extensively wounded intestinal surfaces may finally become irregularly adherent, so that the condition is worse and more dangerous than the adhesions when left in vaginal hysterectomy. Every experienced laparatomist knows the truth of this assertion, for he has seen ample proof of it in secondary operations. Adhesions to the uterus can be separated as the operation progresses, without danger of wounding any vital structure; and when this is done, the cervix amputated, and the uterus bisected, after having clamped the uterine arteries, each half may be exposed externally, drawing down the ovaries and tubes so that the fingers will reach above to points of cleavage and enucleate as easily as in a laparotomy.

It must be conceded that we cannot always positively say if

the disease can be entirely removed per vaginam and that a laparotomy will not be necessary, but these cases are so infrequent that it in no sense argues against vaginal hysterectomy; and especially is this true when we remember that, after attempting or completing vaginal hysterectomy, we may immediately open the abdomen and treat the abdominal adhesions, the vaginal opening giving excellent drainage. The shock in the combined operation would not be greater than would have resulted had all the surgery been done by laparotomy; nor would the operation be necessarily prolonged, as the difficult surgery would have been completed per vaginam.

While vaginal hysterectomy will be of incalculable value in the treatment of pelvic diseases, I am pleased to see that the prevention and cure of pelvic diseases by vaginal section and drainage is now being especially emphasized, and, if correctly understood, will result in the prevention of many diseases for which hysterectomy has previously been performed, and will also prevent the extension of septic matter, following abortion or labor, into the general peritoneum or into the system. In acute sepsis extending into the broad ligaments or into the pelvic peritoneum its further progress may be prevented by vaginal section, separating and draining the infected broad ligaments or the infected peritoneum.

It has recently been argued that carcinoma uteri should be removed by suprapubic hysterectomy, because we can then examine the folds of the broad ligaments near the pelvic wall and dissect out and remove infected lymphatics, and, if necessary, ligate the internal iliac arteries and dissect infected structures from any part of the pelvis. The operation may be performed more rapidly, with less traumatism, less shock, and more speedy convalescence, per vaginam; and if there is involvement of structures beyond the uterus that cannot be removed by this method, any radical surgical procedure is contraindicated, because the disease will speedily return, it matters not what method of operation be adopted.

In myomatous tumors, either intraligamentous or retroperitoneal, or in the body of the uterus ascending high out of the pelvis, the combined operation—vagino-abdominal—should in many cases be the operation of election. While surgeons of great experience in abdominal hysterectomy may ligate the uterine arteries without great difficulty, this cannot be done by the average operator. The cervix should be entirely removed, and this is more difficult and dangerous by the suprapubic method.

In Pryor's method of abdominal hysterectomy the myomatous uterus may often be removed in a few minutes without hemorrhage, if preceded by vaginal separation from the cervix and ligation or clamping of the uterine arteries. The following is from my paper recently read before the American Gynecological Society upon "The Treatment of Intraligamentous and Retroperitoneal Uterine Myomata":

"Since in every hysterectomy we should, after the woman is on the operating table, thoroughly wash and disinfect the vagina, and sometimes curette the uterus, it will require but little more time to separate the vagina from the cervix and ligate or clamp the uterine arteries, which, if possible, should be done in continuity near the pelvic wall beyond the vaginal branches. We may then enucleate and separate the lower part of the uterus from its attachments, being careful to hug the uterus or tumors so as not to open the peritoneal cavity. The patient having been previously prepared for a celiotomy, the abdomen is now opened and the operation completed from above. The adhesions, if any, having been separated, the ovarian arteries are ligated close to the pelvic wall, thereby practically cutting off all blood supply to the uterus or tumors. Having made a circular incision through the capsule entirely around the uterus and tumors near the fundus, which in some instances may include both ovaries and tubes, enucleation may be rapidly proceeded with, hugging the uterus or tumors so as to make no opening in the capsule; or the capsule may be incised at any point or after any method the operator elects and best meets the indications. The danger of hemorrhage or of wounding the ureters or bladder is reduced to a minimum. If after enucleation there is hemorrhage it may be easily controlled by ligatures or tampon; and if a ureter is injured and is not immediately implanted into the bladder, the leakage will be extraperitoneal and the urine, passing out through the vulva, will not cause peritonitis or sepsis. The capsule may be sutured in the lower part of the abdominal wound, removing all superfluous tissue, and the incision closed above. It will be clearly seen that by this procedure, when the operation is completed, all wounded surfaces are extraperitoneal, so that there is no danger of intraperitoneal hemorrhage, sepsis, or adhesions. There will usually be no ligatures or sutures left in the peritoneal cavity except the two on the ovarian arteries. It is possible that in some instances a small catgut suture may be necessary to close connective-tissue spaces on either side caused

by removal of the ovaries and tubes. The cavity of the capsule and the vagina may be, as conditions may indicate, loosely or tightly tamponed with iodoform gauze, so that we have double drainage, and may finally cleanse or disinfect the sac cavity and vagina by passing a stream of sterilized water or germicidal solution from above out through the vulva."

Puerperal septic infection confined to the uterus and pelvic structures should be treated surgically, per vaginam, either by vaginal section and drainage or by hysterectomy and removal of ovaries and tubes. Many such cases, if treated early, before suppuration or systemic infection, may be cured by vaginal incision and drainage; but in the event of incomplete cure dangerous conditions are aborted and hysterectomy may be performed at the elective time. In sepsis where there are abscesses in the folds of the broad ligaments or in the pelvis, many cases may be cured by incision and drainage, and this treatment should be adopted in all cases where the condition of the woman contraindicates an immediate radical operation.

In cases where hysterectomy must be an operation of election there may be conditions that will require the vagino-abdominal or the suprapubic method.

The following are some of the reasons why vaginal hysterectomy should be preferred to celiotomy :

1. There is less shock and more rapid and complete convalescence.
2. In pelvic suppuration there is less danger of septic infection from soiling the peritoneum.
3. Absence of suture or mural abscesses, and of sinuses following the use of drainage or an infected ligature.
4. Immunity from ventral hernia.
5. A lower mortality, fewer post-operative complications, and a more complete restoration to health in a relatively greater number of cases.

The above are facts, as shown by the statistics of the most successful operators in celiotomy and vaginal hysterectomy; and in vaginal hysterectomy many of the cases were inoperable by any other method.

It will thus be seen that theoretical objections to vaginal hysterectomy, unsupported by facts and reasons, are worthless when tested by intelligent experience.

THE FONDA.

THE MANAGEMENT OF CASES AFTER ABDOMINAL OPERATIONS.

BY

J. W. HICKMAN, M.D.,
Tacoma, Wash.

EVERY surgeon no doubt has felt, after an abdominal operation is completed and the proper dressings applied, that his work is in, so to speak, and that there is very little that he will henceforth be able to do that will materially influence the destiny of his patient.

While this is largely true, there will occasionally arise exigencies within the first three or four days that will require the exercise of sound judgment, and, unless properly met, may cast the die against the patient. Of course it is not disputed that the simple cases will get well with the most ordinary care ; but take a case where, even with the most rapid and skilful work, the patient has been on the table for a couple of hours or more, or where there have been extensive and dense adhesions, or where during the operation pus has been poured into the abdominal cavity, or where there has been injury to the gut or other viscera ; or take a case where operation has become necessary amid the exhaustion of septic processes—and the after-care may involve questions not capable of being properly settled by any except the highest kind of surgical skill. This conclusion has been forced upon me by an extensive observation of cases in the hands of others and by a not inconsiderable number in my own experience.

It must be understood at the outset that there are anatomical and physiological reasons why these cases must be managed upon different lines from other operative cases. To cite an isolated instance : The peritoneum is in point of fact a large lymph space, and, like all lymph spaces, large and small, has a wonderful absorbing power. So great is this power that the products of an extrauterine conception have, in favorable instances, been digested and absorbed ; and very frequently has it been observed in operations done for the relief of this condition, where it has been found impossible to remove the placenta, that it has been removed by this function of the peritoneal sur-

faces until not a remnant of it is left. To enumerate in detail the peculiarities of this cavity in structure and function would carry me far outside the scope of this paper ; therefore I must assume their existence. Nor is it pretended that there can be laid down any hard-and-fast rules in which we may be governed in the after-treatment of these cases in this or that complication. It must be understood that they must be managed upon principles based not alone upon knowledge of the structure and function of this part of the economy, but upon the causative factor in the complication as well.

I shall now invite your attention to a few points that are likely to demand attention within the first three or four days.

It is well in cases of abdominal section to apply a binder that shall extend from the ribs nearly to the knees. This will serve the ordinary uses of the appliance and will contribute something toward the more complete immobilization of the abdominal muscles. For how shall you immobilize these muscles if you do not restrain the movements of the lower limbs ?

Then, again, the patient should be moved from the table to the stretcher and from the stretcher to the bed with the limbs extended, heels, knees, buttocks, and head being on the same plane, and not, as we so often see, be taken by the legs by one nurse and by the shoulders by another and thrown about as you might handle a sack of grain. There might some grave reasons be given for this care. It may be thought to be an unimportant matter, but it is just one of the many little things that contribute very much to that aggregate which we call the result.

The next thing to be looked after is that queer complexus of phenomena known vaguely as shock. Its pathology is not known, nor can its post-mortem changes be recognized. It may be said to be a depression of vital activity manifested chiefly through the nervous system. Every function of the economy is below par. Its duration may be measured by hours or days. It is marked by a condition so nearly resembling that induced by hemorrhage that we may be unable to discriminate the difference prior to that condition known as reaction. Its proper management consists in stimulating the central nervous system. The first of these measures is heat. Upon being placed in bed the patient should be surrounded with hot-water bottles, which should have been put there at least thirty minutes ahead of the patient. These bottles should be encased in flannel, not put in bare or in old woollen stockings full of holes—

another one of the little things that you will think worth looking after when you have seen a few burns, as I had the misfortune to see a few years ago in a case I very vividly remember and shall never forget. The next thing in point of importance in severe shock is to inject subcutaneously the one-twentieth of a grain of strychnine and to repeat every twenty or thirty minutes, if need be, for three or four doses or until the circulation is good. Strychnine, in the quantity named, is the most reliable nerve and circulatory stimulant known, and indeed the only one that can be depended upon. It must, permit me to repeat, be given in positive quantity; the one-hundredth or even the one fiftieth of a grain is hardly of use at all, except to make the administrator feel that he is doing something. In conditions of extreme shock there is a certain immunity to the toxic manifestation of strychnine. So important is its use in large quantity that it is better to run some risk of a toxic convulsion than the much-talked-of heart failure. If this condition last for twenty-four hours, nutrient and stimulating enemata deservedly hold an important place in the treatment.

Thirst following an abdominal operation is an almost constant feature and one that cannot always be managed to the satisfaction of the patient. We do not know its cause. It has recently been urged in some quarters that thirst may be largely obviated by having the patient drink large quantities of fluids for a couple of days prior to the operation. As to the efficacy of this measure I cannot speak from experience. If the patient do not vomit, it will be well, after the first three hours, to give a teaspoonful of cold water every hour or two. After six or eight hours a teaspoonful of warm water may be given every fifteen or thirty minutes, and seems to allay the thirst. If, however, vomiting should occur, absolutely nothing should be given by the mouth until two hours have passed. I do not like ice. It at first allays thirst, but the demand for it becomes almost constant after it is once given; more cold water is taken into the stomach than can be absorbed, and vomiting occurs. Moreover, the patient is liable, after a couple of days, to have a dry, sore mouth as a result. In cases where it is unwise to give water on account of vomiting, an enema of three or four ounces of hot water may be used every couple of hours and will relieve the thirst. In addition the patient may be permitted to hold in her mouth, for a few moments at a time, some warm water, without swallowing it.

Vomiting as a complication may be due to the anesthetic,

to shock, to sepsis, or to obstruction—I of course refer to obstruction due to paresis of the gut, and which may be as complete as that of volvulus itself. It must therefore be axiomatic that there can be no single therapeutic measure efficacious in all forms of vomiting, and indeed, as a matter of practical therapeutics, we well know there are cases of vomiting in which we are unable to afford a particle of relief. One thing we do know is that after flatus is expelled from the bowel the vomiting generally ceases; if it do not there is probably a causative factor lying without the lines of safety. For the vomiting due to the anesthetic the best treatment I know must have been applied in advance, and it is twofold—namely, keep the patient on the table as short a time as possible and give the smallest possible quantity of anesthetic. After the mischief is done the best means at our disposal amount to very little. They are, to keep the stomach empty and the patient as quiet as possible, with an abundant supply of fresh air in the room. It has seemed to me that a small quantity of morphine hypodermatically has been of use. I mean morphine, and not morphine and atropine now so inseparably given; for atropine should under no circumstances be given after an abdominal operation, for the simple reason that it inhibits the activity of one of the most important excretory organs. I may here interpolate the statement that the activity of the skin contributes more to a comfortable recovery than is generally thought. This is a point that should be impressed upon nurses. The vomiting due to the other causes named must be handled by dealing with the condition giving rise to it; such vomiting is never benefited by the indiscriminate giving of small doses of calomel, warm water, lime water, small doses of ipecac, or any of the host of agents so ordinarily used.

Where gas has been expelled from the bowel the surgeon is more relieved than the patient. This usually occurs in from twenty to thirty hours, and indicates that the lumen of the tube is clear and that its muscular apparatus is again properly under the influence of its nervous supply. The patient will now be able to retain and assimilate some nourishment. We may also now feel at liberty to administer a cathartic, if it be thought desirable. Prior to the passage of gas I have seen but one result from the giving of a laxative—namely, reverse peristalsis with all of its discomfort. Just as soon, however, as gas has been expelled, particularly if the temperature have

reached 100° or the pulse be accelerated, I think a purgative, preferably a saline, should be administered. And standing at the head of the list from which we may select is sulphate of magnesia in teaspoonful doses in black coffee every hour. In its action peristalsis is perhaps less stimulated than by any other agent of its class. Calomel in frequently repeated small doses is often given. Its greatest advantage is that it is easy to take; its disadvantages are that it is slow, that it greatly stimulates peristalsis, and that it does not deplete the mucous membrane of the intestinal tract. The latter point is the great reason why a saline is the most efficient cathartic in these cases. A large, watery passage is the result, and most of the water comes from the vascular supply of the intestinal mucous membrane; in turn the absorbing power of the peritoneal cavity is increased, and any accumulated fluids are taken up and gotten rid of. After the bowels have properly acted the patient's condition usually improves and the management becomes less responsible.

Often the accumulation of gas in the bowel will occasion a good deal of distress to the patient and a good deal of anxiety to the surgeon. A prominent cause of this tympany is the imperfect emptying of the bowel prior to operation. It may come as the result of improper nourishment; for instance, I once saw the stomach and upper bowel enormously distended from drinking large quantities of cold tea. This, I may say, was in the case of a prominent physician of this city. The suffering owing to the accumulation of gas, apparently due to this cause, was very considerable. Accumulation of gas may come from sepsis; it is said it often announces the beginning of peritonitis. For purposes of practical treatment, however, these cases may be divided into two classes. Both are marked by distension. In one this is all and the gut seems to be quiet; it makes no effort at expulsion; the sympathetic ganglia seem to be exhausted. In the other class the distension is also marked, but there is more or less active peristalsis; we hear gurgling and rumbling in the abdomen, and the patient complains of colicky pains; there seems to be a point somewhere beyond which it is not possible for the gut to force the gas; there may be vomiting, and I have seen stercoraceous vomiting even in patients who subsequently made a good recovery. Now, the treatment very evidently should not be the same in both kinds of distension. In the first we require a stimulant, such as five or six grains of quinine in one-half ounce of whiskey every two

or three hours for three or four doses. In the latter nothing is so efficient as a hypodermatic injection of morphine together with a turpentine enema. In any case of distension the rectal tube may be tried, but I have never seen much good come of its use; it has, however, come to be fashionable and is a time-honored appliance. I should not fail to note that the form of distension marked by excited peristalsis may become one of simple quiet distension by pure exhaustion, if the proper remedial agents be not applied or if they fail to give relief. It seems to me that the beneficial effects of opium are not appreciated in enteric complications as they deserve to be. In days gone by it is likely that opium was too much depended upon; it is possible that it is too sparingly given to-day. It is quite able to give the vital forces a needed rest; if there be absorption of septic matter it will temporarily stop it. I remember a case in point that I beg leave to mention briefly. It was a pus case, and I should have used a drain and did not. On the second day the temperature had shot up and the pulse was 150 and jerky. The expression of the face was of that kind which never betokens good. She had vomited frequently and the vomited matter was now dark brown. I injected some morphine beneath the skin, and, after a few hours' rest, separated the lower part of my incision and evacuated several ounces of stinking pus, washed out, and my patient recovered. Had I not used the morphine I am convinced my mortality list would have had another addition to its ranks. One word as to the management of drains. Drainage may be accomplished by gauze or by tubes, or by both. If they are used the dressings must be frequently changed, and this work must be approached with as much care and with as precise aseptic precautions as in the original operation. It is not necessary to infect a drainage tube under any circumstances, so this bugbear might as well be eliminated. The tube should be dressed every three or four hours, and it should be arranged by rubber dam so that its discharge may not soak the main dressing. The time for its removal cannot be measured by hours or by days. As soon as the discharge becomes a sweet, simple serum the tube should be withdrawn and the edges of the incision approximated; this is the only guide to the removal of a tube. If the discharge has not become serous by forty-eight hours there is probably some infection and you may soon look for a discharge of pus. If this occurs the tube should be left in for three or four days and the cavity be treated as any other abscess. If

the drainage be gauze, some of it should be removed within twenty-four hours, and perhaps all of it by forty-eight hours, even if we have to put some in its place; for gauze will become fast by growth of tissues through it. I may add, however, that the ideal drainage is through Douglas' cul-de-sac into the vagina, or, in an infected case, this in connection with abdominal drainage. In either case its subsequent management must be the same.

If possible the patient should be induced to pass urine voluntarily; if impossible the catheter should be passed every eight hours over as short a time as possible. The last thing before removing the patient from the table should be the passage of this instrument.

In an uncomplicated case the dressings should not be disturbed for a week or ten days.

Every patient having undergone an abdominal section should wear a well-fitting abdominal binder for at least a year.

CONJOINED ABDOMINAL AND VAGINAL SECTION:

ADVANTAGES GAINED IN DRAINAGE BY THIS METHOD.¹

BY

AARON B. MILLER, M.D.,

Professor of Gynecology Medical Department, Syracuse University,
Syracuse, N. Y.

(With one illustration.)

IN presenting a paper to the Society on this subject I desire to prove my convictions by appending the histories of a few cases operated upon since January 1st, 1896. By the "conjoined method" I refer to a combination of celiotomy, or entering the pelvis through an incision in the abdominal walls, and the more recent method of operating through the vaginal vault.

Until recent date, with few exceptions, the abdominal route was chosen. In consequence of the high mortality following this method in certain inflammatory affections—where extensive adhesions had formed attending pus in the pelvis, whether of ovaries or tubes; or where rupture had resulted in abscesses or sinuses; or where there were extensive adhesions to growths

¹ Read before the Onondaga County Medical Society, May 26th, 1896.

of the uterus, involving omentum and intestines—many of these cases, after inspection by abdominal incision, were abandoned for fear a fatal issue would follow, and the patients returned to their homes to eke out a miserable existence of prolonged physical suffering until relieved by death, or as a last resort would elect the operation, some few recovering, more not. The vaginal method had become so popular as a route to remove the cancerous uterus that it was followed in other pelvic affections as a result of the difficulties and high mortality which attended the abdominal, until to-day medical literature teems with the brilliant results achieved, and still greater promise for the future as the technique of this method is more and more perfected. Objections attend either method alone. That many cases occur where either method will be applicable or preferable is unquestioned, but with the abdominal method great anxiety exists, until after the fourth day, for fear of complications which may occur in the simplest cases.

In abdominal operations, following the anesthetic for the first twenty-four hours is nausea and vomiting with extreme thirst, which may continue for days if the case does not progress favorably. If gas passes the bowels at the end of thirty-six hours it is greeted as the indication of a favorable convalescence. If the opposite takes place, with abdominal distension, peritonitis and sepsis or intestinal obstruction in some of its forms is apprehended; so that every abdominal surgeon endeavors to get an action of the bowels as soon as possible after an operation.

To acquire this end the salines are administered early. The already irritable stomach frequently rebels, and other cathartics are necessarily resorted to, as mercurials, or enemata may bring the desired result. If continued effort fails and the patient is becoming exhausted, one-quarter of a grain of morphine given hypodermatically will insure rest, and as soon as the patient is thoroughly under its influence two tablespoonfuls of castor oil given per mouth will bring about results within five hours, unless the obstruction is mechanical or due to paresis as a result of sepsis. Anodynes are withheld, to avoid overcoming the peristaltic action of the intestines and arresting the normal secretions. This produces a long period of fatigue and suffering, with complete abstinence from food.

There is fear of peritonitis or sepsis as the result of infection where pus cavities are dealt with, or in extensive abrasions where extensive adhesions have existed, which pour out their

secretions for a blunted peritoneum to eliminate. Sepsis may result and the patient succumb to exhaustion the result of intoxication.

The vaginal method is applicable, in the hands of the ordinary pelvic surgeon, to remove the cancerous uterus, small pelvic tumors whether of ovaries or uterus, and to drain pus pockets without separating the barrier which Nature has so kindly interposed between the abdominal and pelvic cavities to protect the general peritoneum from infection, and without the attending after-effects : nausea, vomiting, or withholding of anodynes in severe suffering—objections which attend all operations through the abdominal wall. The vagina admits of the sense of touch only being exercised in most of the work, which is not so absolute as the sense of sight. The intimate relation of rectum, bladder, and ureters may result in injury to any or all of these organs by the application of the clamp or ligature. If extensive products of inflammation have existed and the operation cannot be completed, it only relieves the condition, the diseased organs remaining in part to excite a subsequent return of the illness with its attendant symptoms. Concealed hemorrhage which may end in death may result either from the slipping of the clamps or ligatures or by their improper application, the sense of touch alone having to be relied upon. Conditions may be present in certain cases where either method will not be applicable alone, as pus pockets low down in Douglas' cul-de-sac and a pyosalpinx at the crest of the ilium with extensive adhesions, or a large friable tumor in the post-uterine space that breaks down and bleeds profusely upon enucleation, etc. The conjoined method is applicable in these complicated cases by enabling the operator to gain all the advantages that either method offers alone without the objections of either.

The technique of the conjoined method requires all the preparation of the patient observed in either method alone. If the affection is confined to the pelvis the patient is placed in the position for vaginal hysterectomy, the post-vaginal vault opened, and the adhesions in the lower part broken up by the finger tips. If for hysterectomy, the lower part of the broad ligament is clamped by forceps or ligated and freed from the uterus. The patient is then raised to the Trendelenburg position and the abdomen opened. Adhesions are freed and diseased structures removed under direct inspection, this position enabling the field of operation to be plainly seen, thereby

avoiding injury to organs intimately associated and insuring the thorough application of the ligature to bleeding vessels. Time can be saved in operating by this method, when preparation has been made for it and assistants have become familiar with the different steps of the technique. The thoroughness of an operation done by the abdominal method, where all parts can be seen, speaks in favor of this method. The relief of symptoms and the lessened mortality where the vaginal method is resorted to recommend this procedure. The objections of either are overcome by combining the two, and the benefits of both are gained. The vaginal method permits of drainage by gravity, but the operation must be unfinished in many cases. The abdominal, with the drainage which has been practised, has failed to be satisfactory.

The conjoined admits of drainage being even more perfected than the vaginal method alone, and is practised as follows :

In all cases of extensive adhesions, either in the abdomen or pelvis, the vagina is first cleaned as for vaginal hysterectomy. The initial opening is through the posterior vaginal fornix, if the pathological lesions are low down in the pelvis. If the lesion is high up and the abdomen is opened first, the vagina is connected by thrusting the scissors through the walls from above and withdrawing with the blades opened. Long strips of iodoform or sterilized gauze which have been previously prepared, of several thicknesses and from two and a half to three inches wide, folded so that the raw edges are rolled in and stitched together, are employed. Folding the raw edges in prevents the threads pulling out and remaining in the wound when the dressings are removed. This is important, as the threads can only escape by sloughing out, and it is possible that fistulous tracts may be created in any of the organs that are in relation with them, as ureters, bladder, or rectum—a complication which is very annoying and may be permanent.

The gauze or packing is grasped at one end by the long, curved dressing forceps, carried into the pelvis from above, and down through the vaginal aperture into the vagina. The pelvic space is then filled by folds of the gauze by the operator, while his free hand holds back the abdominal contents—intestines and omentum. The first assistant holds the uterus forward in case this organ has not been removed, or the bladder if hysterectomy has been performed. The dressing is folded upon itself backward and forward until the pelvic space has been lightly filled and the abraded surfaces covered. Intes-

tines and omentum are then permitted to fall forward over the assumed diaphragm existing between pelvis and abdominal cavity, and rests against the anterior abdominal walls, symphysis, fundus of bladder, and uterus if this organ has not been removed.

The abdominal toilet is completed in the usual way, my method being to introduce sterilized silkworm gut through all the abdominal layers one-quarter of an inch apart and closing the fascia with a continuous buried suture of small chromicized catgut. Subsequent to closing the abdominal incision the patient is lowered from the Trendelenburg posture, the perineum retracted with speculum, and the vagina wiped dry with sterilized cotton, exposing the vaginal vault and the ends of the dressing which have been brought down from above. Strips

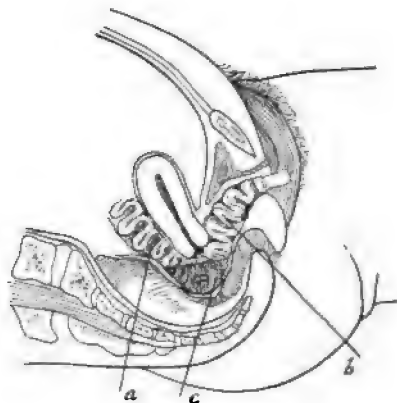


FIG. 1.—a, Packing introduced from above; b, packing introduced from below; c, collection of fluid below cervix.

of gauze are then packed loosely into the vagina in folds, filling it to the vulva. Aseptic pads are applied to the vulva and changed as often as demanded or as soon as soiled.

The following day the patient is gently turned across the bed by the assistants, who bring the buttocks down to the edge of the bed and support the extremities, preventing any tension upon the abdominal walls. Sims' perineum retractor is introduced, the patient being in the lithotomy position, and the saturated vaginal dressings removed by a spoon depressor, the anterior vaginal wall being held forward. Experience shows the dressings to be thoroughly saturated with sero-sanguinolent discharge. And when the perineum is depressed from one to several ounces of accumulated secretions escape which

have collected in the vaginal cup or vault, the most dependent part of the vagina when the patient is in the dorsal posture.

The vaginal dressings are changed and the vagina wiped dry with sterilized cotton each day subsequently, observing aseptic precautions and arresting a possible sapremia which might result from retained secretions in the vaginal cup, the pelvic dressings remaining for several days. The time consumed in moving the patient, changing the dressings, etc., does not exceed from three to five minutes where all things are in readiness, and by the assistant carefully supporting the lower extremities pain is not complained of, but relief afforded.

As the peritoneal secretions are drained by this method, anodynes can be given immediately without arresting their elimination. The patient is relieved of pain, and shock is scarcely noticeable. Nausea and vomiting may result from the anesthetic, but are arrested the morning following the operation, and food is craved, plain milk or broths being taken with relish and without any unpleasantness following. The convalescence is more rapid, and the serious consequences of abdominal and pelvic surgery are reduced to a minimum.

In conclusion, and before appending cases, I would urge the removal of the vaginal dressings daily until the abraded surfaces in the pelvis become tolerant to the presence of accumulations or as long as secretions are poured out. The patient resting upon her back, the most dependent portion of the vagina must be at the vault. After the dressings become thoroughly saturated with the discharges a pool accumulates in the lowest part. If the gauze drains over the perineum—it can only be the result of capillary attraction—it must also drain back or carry the secretions into the pelvic cavity, to be absorbed by the abraded parts. If retained in the vagina forty-eight hours putrefactive changes take place, and, unless the dressings be removed, sapremia must result.

Mrs. S., age 42; married; mother of three children. Admitted to the hospital January 28th, 1896, complaining of pain in pelvis attended by fever, which had been present for several months, confining her to bed. Complained of severe pain across abdomen and purulent discharge from vagina. Upon examination pus tubes were found to be present, with extensive pelvic adhesions fixing uterus firmly in pelvis. February 3d, temperature 103°, pulse 122. February 4th, operation by vaginal incision posterior to cervix. Inflammatory masses removed containing ovaries and tubes, and a quantity of pus discharged by rupture of sac cavity. Temperature dropped to 98.6°, pulse 110.

Temperature reached 101° on third day, the highest point after vagina was packed with iodoform gauze. Complication: recto-vaginal fistula occurred tenth day following operation, as result of sinus existing between pus sac and rectum, fecal matter passing per vaginam. Patient discharged March 5th. Fistula closed.

Miss J. T. Admitted to "Hospital Home" ¹ March 12th with history of long-continued pelvic trouble, attended with high temperature, rapid pulse, with hectic symptoms for several years. Pelvic examination revealed pus in the pelvis, with diseased ovaries and tubes. Patient put to bed and prepared for operation two days subsequently. Vagina cleaned. Incision made into the posterior fornix and adhesions low down in the pelvis broken up. The abdominal incision was then made, which revealed omentum, intestines, and pelvic contents all matted together. Adhesions were freed, pus tubes and ovaries removed, the pelvis thoroughly cleaned and packed according to description. Patient suffered from edema of the lungs immediately after the operation, but rallied and went on to a favorable recovery. Rise of temperature to 100.8° , which took place on the third day. Patient left the hospital April 9th. Has been strong and well since.

Mrs. E., age 27; multipara. Admitted to the House of the Good Shepherd March 31st, 1896. Had been flowing for seven weeks past. Was regular previous to this time. Complained of severe pain on the right side which had existed for four days only. Pulse rapid, temperature 101.2° . Facial expression blanched, with indications of internal hemorrhage. April 31st, abdominal incision was made, revealing bloody fluid with blood clots in the abdomen and pelvis. Hemorrhage resulted through rupture of the right tube, both ovaries and tubes being diseased. The diseased organs were removed, the abdomen thoroughly cleansed, incision made through the vagina after thorough cleansing, and pelvis and vagina packed according to description. Pulse immediately dropped to 72, temperature to 99.6° . Highest temperature reached subsequently was 101.2° on the third day following the operation. Much fluid discharged into the vagina, aside from that taken up by the dressings, which were removed each day. The pelvic dressing was removed on the fifth day. The patient went on to a favorable convalescence.

Mrs. S. Admitted to "Hospital Home" April 9th, 1896. History was that she had been out of health for many years, and examination revealed the presence of large tumors filling the pelvis and abdomen. Operated the second day after her admission. Long incision was made through the abdominal walls, revealing the presence of large cystic tumor filling the right side of the abdomen, adherent to the parietal walls on the right side and the diaphragm above. Omentum adherent to the whole surface of the tumor, with large fibroid growth on the left side. The omentum was cut off, the adhesions broken down, two gallons of fluid drawn from the sac, which revealed

¹ My private surgical hospital for abdominal and pelvic troubles.

its origin in the right broad ligament. This was clamped off, which enabled me to reach the pelvis on the left, where the fibroid was found to rise from the fundus of the uterus. Its weight was eight pounds. The heavy pedicle was clamped and the uterus and the fibroid cut away. The origin of the cyst on the left side was then removed in its entirety by ligation. The uterus having been clamped away, the ovaries and tubes were removed, opening into the vagina below, which had been thoroughly cleansed previously. Dressings were applied, filling the pelvis and carried into the vagina as described. Daily vaginal dressings renewed. Patient recovered without any complications. Highest temperature was 101.6°, which was reached on the fifth day in consequence of the formation of stitch abscess. Pulse rose to 115 on the second day, which was the highest reached. Aside from the annoyance of the stitch abscess, patient's convalescence was uninterrupted, and she was discharged May 7th.

Miss M. M. Admitted to "Hospital Home" February 25th. Anemic, much debilitated, with temperature 102.2° and pulse of 100. Operated on April 1st. Pelvic organs were bound down by extensive products of inflammation involving the abdominal contents, and enlargements laterally in the region of the ovaries and tubes. The vagina was prepared and opened posterior to the cervix, and large pus pockets were reached and broken open. The patient was then placed in the Trendelenburg posture and abdomen opened. Adhesions were broken up, which were extensive, involving intestines and omentum, with diseased adnexa. These were removed, pelvis packed, patient lowered, the vagina filled with dressing, which was removed and vagina repacked each subsequent day according to method described. Patient was discharged on the 22d.

Mrs. M. Operated at St. Joseph's Hospital April 2d for pus tubes and diseased ovaries. Patient was very weak from long-continued absorption of pus, and the operation was attended with considerable difficulty, the adhesions being so extensive, and there having existed a fistulous tract between the ovaries, pus sac, and rectum. Patient was put to bed in an exhausted condition, pulse rising to 140, with temperature 103.2°; this immediately fell the following day to 99°, and pulse to 118. Vagina was repacked daily and serum removed. Upon removal of the pelvic packing, which took place on the sixth day, fecal matter discharged from the incision. Frequent vaginal irrigations were ordered to be continued until the discharge was arrested, which lasted for a period of two weeks. Patient discharged at the end of the fourth week very much improved in color and strength.

Mrs. M. Admitted to St. Joseph's for operation April 22d. Temperature 101°, rapid pulse. Examination revealed the presence of pus tubes and extensive adhesions in the pelvis, which had existed, according to history, for three years. Subsequent to operation patient suffered from pneumonia complicating the convalescence. No symptoms at any time were referable to

the operation, which was done by the conjoined method. Packing removed and replaced each day for a period of one week. Subsequent to removal of stitches from the abdomen, during a violent paroxysm of coughing the abdominal wound separated at the line of incision, necessitating a prolonged stay in the hospital for the wound to granulate up. Nausea and vomiting were relieved the morning following the operation. At no time during convalescence were there symptoms referable to operative interference.

Mrs. S. Admitted to "Hospital Home" May 7th, and prepared for operation for extensive inflammation of the pelvis and abdomen. Patient was brought to the city upon a bed, having been confined to her bed at home for several weeks previously as a result of an acute attack of inflammation, with history of having suffered from recurrent attacks for five years past. She was put to bed and operated upon March 11th for pyosalpinx and extensive adhesions. At the operation the omentum, which had prolapsed into Douglas' cul-de-sac and was gangrenous in appearance, was removed along with the diseased adnexa. The healthy omentum was also removed, as it was riddled, and for fear of obstruction to the bowel if it were left intact. Temperature after operation 99.5°, with pulse 120 and weak. Pulse previous to operation had been 140 at times, with temperature of 102° to 103°. There were no unpleasant symptoms, aside from the weakness following the operation, with the exception of stitch abscess. Patient is now taking food readily, with increase of strength, and will soon be discharged from the hospital.

326 MONTGOMERY STREET.

GONORRHEA IN WOMEN.¹

BY

J. F. SCOTT, M.D.,
Washington, D. C.

ASK any intelligent layman, or general practitioner who does not see much of the effects of gonorrhea and syphilis, which is the greater evil of the two, and he will invariably and unhesitatingly say syphilis.

I have long been aware that the opinion among gynecologists is general that the despoilments and ravages of gonorrhea in women are more severe and fatal than those of syphilis, and I also find that genito-urinary specialists among men hold quite

¹ Read before the Washington Obstetrical and Gynecological Society, February 21st, 1896.

the same opinion. Though any self-respecting person recoils in horror at the possibility of acquiring syphilis, which is a constitutional disease wherein the blood is tainted, yet the chances are that an intelligently treated case of syphilis will result in less harm than a neglected case of gonorrhea.

I wish to compare and contrast syphilis and gonorrhea in a few particulars, in order to bear out this point :

SYPHILIS	GONORRHEA
Rarely causes death (except remotely).	Not infrequently causes death.
Does not cause blindness (except in later manifestations when neglected).	Frequently causes blindness.
Does not often render patient sterile.	Often causes sterility in both male and female.
Comparatively painless.	Very painful.
Not followed by strictures.	Strictures frequent, especially in male.
Not so frequent.	More widespread.
One attack immunizes.	One attack predisposes to another.
Perhaps is curable.	Sometimes, <i>at least</i> , latent for years, and inveterate. Leaves permanent results, <i>e. g.</i> , stricture, sterility, dysmenorrhea, blindness, etc.

I mention these points to accentuate my appreciation of the gravity of even the mildest case of gonorrhea, either in man or woman.

The exact cause of gonorrhea was long in doubt. It was known to be a *filth disease* ; then it was said that a specific microbe was probably the cause, and now it is incontestably determined, on a scientific basis, that such is the actual case.

That the teachings of this stage of medical progress will be subjected to the same close, narrow, and precise methods of scientific law which we employ in our criticisms of what has preceded, is self-evident ; but yet we say with assurance that the gonococcus of Neisser will be accepted permanently as the infective microbe, for it has successfully passed through the imperative ordeal of Koch's classical tests of being always present in the disease, of having been propagated by cultures, and of having reproduced the disease by implantation on live

mucous membranes. Not many months ago these statements could not have been made with such bold assurance.

Wertheim uses for his culture medium blood serum on agar-agar plates; other good culture media are blood serum (from placenta for convenience), urine and urea, and urine and agar-agar in acid solution. Gonococci from these cultures have been made repeatedly to infect the urethra of dogs, and Bumm has with great candor described many cases where he successfully produced, from these cultures, gonorrhea in the urethra, vagina, and conjunctiva! Neisser's gonococcus has perhaps been subjected to as searching scientific investigation as any other specific microbe, and one cannot but be moved with admiration at the painstaking laboratory investigations which have brought this microbe out, apart by itself, from other organisms which almost exactly simulate it in physical appearance.

Neisser's gonococcus is an exceedingly large diplococcus, averaging 0.85 to 1.6 millimetres in length and 0.6 to 0.8 of a millimetre in breadth. For a good view of it one requires at least a one-twelfth inch oil-immersion lens. The gonococci appear in pairs as diplococci, each segment having a median furrow which gives it the characteristic shape of a coffee bean or biscuit. These diplococci form colonies by cleaving into two, four, eight, sixteen, etc., micrococci.

These gonococci, like other bacteria, have a great affinity for aniline dyes, such as methyl violet, gentian violet, fuchsia, and methyl blue; but they fortunately exhibit one very characteristic and exceedingly valuable *negative* diagnostic sign, for Gram's liquid does not firmly fix the basic aniline dyes in gonococci, while it does in other microbes. This negative fact therefore establishes an element of diagnosis, since the other micro-organisms do not thus become decolorized.

I will quote in full from Finger's work on "Gonorrhea and its Complications"¹ the following proofs that the gonococci of Neisser are the cause of gonorrhea:

"The following facts may be regarded as well established:

"1. The gonococcus is found in all cases of suppuration of the mucous membranes, especially of the genitals and conjunctiva, which are described clinically as gonorrhea.

"2. It is absent in all non-gonorrheal processes.

"3. Pus free from gonococci does not produce gonorrhea.

"4. Pus containing gonococci produces gonorrhea.

¹ Finger, p. 22.

"5. The micro-organisms which are cultivated from gonorrheal pus, but which are not identical with the gonococcus, do not produce gonorrhea.

"6. The gonococci cultivated from gonorrheal pus produce gonorrhea, with distinct increase of the inoculated micro-organisms.

"Thus the etiology of gonorrhea is well established, its virulence and virus are proven."

The initial stage of the disease in women, as in men, lasts usually from two to five days; occasionally it supervenes acutely within the first day, and is sometimes delayed until the fourteenth day. The discharge, after the initial period has passed, becomes muco-purulent and yellow, consisting of pus cells and serum. No other pus cells are so large as those found in the gonorrheal discharge. It is within these pus cells that the gonococci are found in greatest profusion, until they burst and discharge the superabundant colonies. These pus cells are in reality phagocytes and contain gonococci in their interior, not because the gonococci have penetrated their walls, but because *they* have surrounded the gonococci. On the decline of this purulent stage the secretion becomes inspissated by the agglutination of the pus cells with mucus, so that yellowish-white clumps are present in the urine of women as well as men, which are called by the Germans *Tripperfaden*, or "clap-threads." The gonococci have been found to persist in the gleet and "clap-threads," and in the crypts of the mucous membranes, for a very long time after an apparent cure.

Taylor quotes Sahli¹ as saying that he had not once failed to find the gonococcus in the numerous male patients he had examined, even after a long duration of the disease; and again Taylor quotes Fürbringer² as mentioning the disappearance and reappearance of gonococci after mechanical and chemical irritations of the urethra.

The opinion has been quite general, until recently, that the gonococci could not thrive on any mucous membrane except cylindrical epithelium, but it has been shown by numerous observers that the organism can thrive on pavement epithelium and even penetrate the superficial layers of the subepithelial connective tissue.

Madleir, of Munich,³ reports a case where the uterus was

¹ Correspondenzblatt für Schweizer Aerzte, 1887, p. 495.

² "Die inneren Krankheiten," 2d ed., p. 438.

³ Münchener medicinische Wochenschrift, December 24th, 1895.

removed seven weeks after confinement, in which colonies of gonococci were found in the muscle substance of both the cervix and fundus of the uterus. He believes that the gonococci cannot long thrive in the muscular substance, and that that is the reason why they were not found there before.

These matters are of moment and worthy of careful consideration in regard to the questions of the curability of gonorrhea and its latency. For a long time there was a school of teachers who held the *avirulistic theory*, confounding the acrid discharges of leucorrhea, uterine fibroids, polypi, cancers, and catarrhal conditions, which often caused urethritis in men, with gonorrhea proper. Much as Noeggerath was ridiculed at first (in 1872 and for several years thereafter), his opinions are now known to be about correct—that gonorrhea persists in both men and women long after its apparent cure; that latent gonorrhea may produce in either sex either an acute or latent form of gonorrhea; that latent gonorrhea in the female exists as perimetritis, oöphoritis, or as a catarrh of some part of the genital mucous membrane; and that the wives of men who have at some time had gonorrhea usually suffer from some pelvic disease, so that they are either sterile or bear only from one to three or four children.

If a woman contracts gonorrhea we look upon it as a matter of course, and not a hypothetical fear that the disease will spread to the uterus, tubes, ovaries, and peritoneum, thereby making her an invalid and diminishing or impairing her powers of procreation.

A woman may be infected by a man suffering from either the acute or latent form of gonorrhea. The acute form, as would naturally be expected, is most frequently caught from a man having an acute discharge, though sometimes a man with the chronic form may give an acute attack to the woman. Within the first few days following the impure intercourse there occurs a free, purulent secretion from the vulva, vagina, and urethra. The woman complains of itching and smarting about the vulva, burning on micturition, and bladder tenesmus. After a time, varying from a few days to a couple of weeks, the inflammation spreads to the uterus, followed by symptoms of pain and tenderness in that organ, fever, pain in the back, and a pus discharge from the uterine cavity. Later this infection reaches out to the Fallopian tubes, ovaries, and perimetric tissues. So intense may be the course of the disease that she may die from a purulent peritonitis or pyosalpinx.

The chronic or latent form is received from a man suffering with latent gonorrhea.

Within the last month there occurred a marriage in this city which was described in the society columns of the papers as being an unusually brilliant and auspicious event. Two days before that marriage Dr. Vale and I found gonococci in abundance in the man's gleet discharge. He was directed to wear *two* condoms, for safety, on every intercourse with his wife, until the discharge had disappeared and not reappeared for months. What am I to look for in the future history of that pair? Men should be urged not to marry so long as any *clap-shreds* or "good-morning drops" appear in the morning urine, no matter how long the gleet may have been absent.

How sad and dismal is the history of many a pure young girl who marries with all the accompaniments of a perfect wedding celebration! From her husband's latent gonorrhea she contracts conditions which alter her life and even her character. She is introduced to backaches, leucorrhea, irregular menstruation, dysmenorrhea, Bartholinitis, intertrigo, urinary disorders, localized peritonitis from escape of gonorrheal pus through the tubal orifices, enlarged and tender inguinal glands, abortions, loss of her healthful beauty, lassitude, hysteria, and dread of her husband's marital embrace. The latent form would not necessarily be attributed to her husband's fault; the acute surely would be.

We gynecologists are most especially interested in the complications affecting the appendages of the uterus and the peritoneum. It is true that other symptoms precede this ultimate infection earlier in the course of the disease, but we usually do not see the patient until all the beacon fires are lit and burning. Then we see a miserable, emaciated wreck, panting with fever, with furred tongue and foul breath, with a history of dysmenorrhea and a copious, purulent leucorrhea, and dreading the pain of an examination.

German authorities impute twenty-three to twenty-eight per cent of all diseases of the adnexa to gonorrhea; English and American authorities, seventy per cent.

The pyosalpinx, or pelvic pus sac, which we so confidently look for and find, results from a direct extension from the uterus. The purulent oöphoritis results from a peri-oöphoritis which shuts off a pus cavity by peritoneal bands and ends in the development in the ovaries of cysts and suppurating cavities. Frequently the ovary will be found bound down in Doug-

las' sac by peritoneal bands and the uterus misplaced by the same cause. For the treatment of these cases there is no rational method except ablation of *both* ovaries and *both* tubes. In all our pyosalpinx cases it would be well to follow the plan of Prochownick, who has the pus from the ovary and tube from one side at once examined, and if gonococci or other infectious bacilli are present he removes the other ovary and tube, even if apparently healthy, knowing that they will eventually be sure to be infected. Though the pyosalpinx or purulent oöphoritis may be dependent on gonococci originally, yet there is usually a "mixed infection," and often the streptococci have prevailed over and destroyed the gonococci, so that these latter organisms may not be found.

Vaginitis.—For a long time it was claimed by Bumm and others that there was no such thing as a *specific vaginitis*, because the gonococci could not penetrate the squamous epithelium of the vagina, but that the vaginitis was simply a catarrhal condition caused by acrid discharges, from the cervical canal and uterus, pouring over it. It has recently been demonstrated, however, that the gonococci do penetrate the epithelium of the vaginal walls, for after the most thorough cleansing of the vagina it is possible to find gonococci, after curetting out some of the vaginal mucous membrane, in the epithelial and sub-epithelial layers.

Many of those cases which we see, where the patient complains of a bearing-down feeling, itching and burning of the vulva, eczema, intertrigo, vaginismus, and the discharge of a creamy pus which soils her linen, are gonorrheal vaginitis. It is apt to leave a characteristic sclerosis of the mucous membrane, which is so often found in the vaginæ of prostitutes.

The acute symptoms should be treated mildly by simple cleansing douches, rest in bed, laxatives, cold compresses, a low diet, and quieting medicines such as potassium bromide, chloral, and morphia.

In the chronic stage more active measures must be instituted, such as painting with iodine, washing and douching with corrosive sublimate, permanganate of potash, silver nitrate, and the insertion of vaginal suppositories of iodoform or ichthyol-glycerin tampons.

Urethritis.—There is a widespread misconception that gonorrhea in the female does not attack the urethra; but, contrary to this prevalent opinion, the female urethra is almost always affected, and Freund, of Strassburg, having found that

it is not always easy to find the gonococci in the vaginal secretions, especially as many of the women are intelligent enough to use strong antiseptic injections, makes a practice of passing the finger up the vagina and squeezing out some of the pus from the urethra, which will be almost sure to contain the organisms.

Taylor¹ says the female urethra is more uniformly affected than any other part, and Wellander (1889) found the gonococci in the female urethra in eighty-nine per cent of cases, Bruenscke (1891) in ninety per cent, and Finger (p. 274) reports two cases in women where the urethra alone was infected.

The period of incubation, invasion (two to five days), and the general symptoms of specific urethritis in the female are much the same as in man. Owing to the short course of the urethra, the bladder is more liable to become involved and to occasion a very acutely painful bladder tenesmus.

As women are subject to an intense vulvitis and intertrigo from the acrid discharges, they suffer from the scalding of the urine over these parts, probably more than a man does.

The urethral discharge may remain infectious for months, and the inflammation occasionally causes stricture of the urethra, though I myself have never seen it.

Women are, of course, subject to gonorrheal rheumatism and endocarditis, but to a less degree than men. I will not dwell on these complications.

In regard to the latency of gonorrhea, it is at least positive that the disease can be caught long months after the symptoms of discharge have ceased.

Lawson Tait goes so far as to say that gonorrhea is incurable.

Kopytowski,² on the basis of a number of extensive clinical experiments, finds that, often after most careful police inspection, gonococci are found in the secretion of the cervical canal of women who are pronounced by the police doctors to be absolutely healthy, and that long after the apparent cure of an acute gonorrhea, gonococci still linger in this region. Hence he argues the futility of an examination as at present conducted, and the absolute impossibility of determining, without elaborate bacteriological investigations, the presence or absence of gonorrheal infection in the case of a woman."

A man should not be allowed to marry as long as there are any gonococci, pus corpuscles, clap-shreds, or inflammatory conditions in the urethra or periurethral tissues. If gonococci are

¹ "Venereal Diseases," p. 289.

² Archiv für Dermatologie und Syphilis, Bd. xxxii., Heft 3.

found in the discharges there can be no manner of doubt as to what advice we should give, but a negative search for gonococci should not lead to our consent so long as clap-shreds or pus corpuscles are found. It is well known that gonococci lurk in the deep tissues and lacunæ of the mucous membrane long after the symptoms have subsided, and excess in venery, a debauch of wine-drinking, undue physical exertion, or any cause that may bring about a slight catarrh of the urinary tract, will be followed by the reappearance of the gonococci. It is further necessary to examine the discharges of the anterior and posterior portions of the male urethra separately. The discharge from the anterior urethra may show no gonococci, while that from the posterior urethra will contain clap-shreds, pus cells, and gonococci. The first gush of urine may contain no clap-shreds, while they appear in the second gush. The safest way to examine is to wash out the anterior urethra with a retrojector catheter passed down to the bulb, and then to examine the urine that is passed and the water used for irrigation separately.

Before closing my paper I would like to suggest that very few who are not genito-urinary specialists can intelligently treat gonorrhea in either the male or female. It is very easy to go ahead and operate for pus collections, but not so easy to prevent their formation. Not all cases, but a large number of them, might be prevented from running an extreme course by the same painstaking methods which the genito-urinary specialists employ. The gynecologist of the future will be a man who will have the intelligence to refer all his cases of gonorrhea to the specialist, or else to make himself a specialist in this particular branch, along with his skill as an operator.

1138 CONNECTICUT AVENUE.

DELIVERY BY TRACTION ON THE SCALP OF THE CHILD. ,

BY

HOWARD A. KELLY, M.D. ,

I WELL remember one of my earlier obstetric cases among the mill population of Kensington, Philadelphia, in which the head was delayed in the lower part of the pelvis, and, after considerable moulding, a long ridge of skin, projecting about two centimetres from the skull, formed on the child's scalp ; this offered such a good hold that I grasped it between the thumb and

forefinger of both hands and tried to assist delivery by the strong traction I was then able to make. The effort was futile and the forceps was needed to complete the delivery.

Curiously enough, however, I find that the scalp of the child has been used as a tractor in quite another way in at least two parts of the country somewhat remote from each other.

During a recent visit to Rockingham County, Va., Dr. G. W. Richards described a delivery which he had effected in the following manner eight years ago:

The patient was a primipara, about 30 years old, who had a slow labor and weak pains. The head was well engaged but did not advance, and, as the doctor did not have his obstetric instruments with him and saw no other means of securing good traction, he deliberately cut a bridle of tissue, an inch wide and two inches long, through the scalp on the most accessible part of the child's head near the posterior fontanelle, and, hooking his finger through this, pulled until it broke. A piece of tissue larger than a dollar was pulled off. Delivery was effected, however, but the wound suppurated, and the child is living with a small scar in the scalp as big as the end of a finger.

It is strange that a somewhat similar plan should have been in vogue many years ago in the practice of a certain physician of Wilkes-Barre, Pa., as related to me by Dr. G. W. Guthrie, on the authority of the late Dr. Edward R. Mayer.

Dr. Mayer writes: "Then there were other pure and capable men who did the best they could with their lights, enjoyed the confidence of the community, and had large followings. One of the most esteemed and successful of these, once, with modest triumph, let me into a secret of his success in obstetric procedure. He attributed this to a method of his own discovery, which he considered worthy of publication, but had not yet mustered courage to place in print. This was that of incising the fetal scalp with scissors, inserting the index between it and the calvarium, and thus forcibly extracting. It is needless to say that this really good man had never owned or seen a forceps. I do not remember having seen his method referred to in print, but I have lately seen the cicatrices left by him upon the now bald heads of some of his victims."¹

I may add that I report these cases as curiosities of obstetrical procedure only.

¹ See "The Now and Then of Medicine: A Post-Prandial Discourse, delivered at the celebration of the twenty-fifth anniversary of the Luzerne County Medical Society, Wilkes-Barre, Pa., January 13th, 1886, by Edward R. Mayer, M.D."

MULTILOCULAR ADENO-PAPILLO-CYSTOMA OF THE OVARY:
WITH SARCOMATOUS NODULES ON THE INNER SURFACE OF ONE
OF THE CYSTS.

BY

THOMAS S. CULLEN, M.B.,
Resident Gynecological Pathologist, Johns Hopkins Hospital,
Baltimore, Md.:

(With plate.)

SARCOMA of the ovary, although not of very frequent occurrence, is no great rarity, and in our limited experience we have met with several cases. These sarcomata are invariably solid tumors, but not a few of them in the more advanced stages contain cyst cavities. It has been our routine practice to take sections from various portions of all ovarian cysts removed, whether to the naked eye they appear to be of any importance or not. Had it not been for this systematic examination of all specimens received, we would not have been so fortunate in discovering the sarcomatous process hereafter described. Sarcomatous nodules developing in the walls of multilocular adenocystomata of the ovary are, to say the least, of very rare occurrence, and hence this case is reported in detail.

M. G., age 63; white; admitted to the Johns Hopkins Hospital, in the service of Dr. Kelly, October 10th, 1894.

Complaint.—Abdominal enlargement; moderate pain throughout the abdomen.

The patient has been married forty-one years; has had ten children and four miscarriages. The menopause occurred at 47. About six months ago she first noticed that there was some abdominal swelling on the left side; this has continued to increase, and has been accompanied with sharp pain throughout the abdomen and back. The patient is a healthy looking woman; her mucous membranes are of a good color, her appetite poor, bowels constipated. The abdominal measurements are as follows: from the pubes to the umbilicus, twenty-three centimetres; from the umbilicus to the ensiform cartilage, eighteen centimetres; from the right anterior superior spine to the umbilicus, twenty-two centimetres; from the left anterior superior spine, twenty centimetres. The abdominal girth at

the umbilicus is fifty-four centimetres ; the greatest circumference, fifty-eight centimetres. Operation October 13th. Right cystectomy. After opening the abdominal cavity the cyst was punctured with a trocar and partially evacuated. It was then drawn out through the incision and tied off as close to the uterine cornu as possible. The patient made an uninterrupted recovery and was discharged May 8th.

Pathological Report.—The specimen consists of the right tube and of a cyst of the right ovary. The cyst, which is approximately twenty-two centimetres in diameter, is irregularly globular, smooth, glistening, and bluish-pink in color. Over an area fourteen by ten centimetres the cyst wall has disappeared and numerous thin-walled cysts project outward ; there has evidently been a previous rupture of the wall at this point. On section the tumor is divisible into two portions—an upper, consisting of one large cyst cavity, and a lower which is semi-solid and is composed of many small cysts. The large cyst, which occupies the upper half of the tumor, has a wall averaging one millimetre in thickness. Its inner surface is grayish in color and is in part smooth and glistening. In many places, however, it is covered by velvety, wart-like masses, which have a yellowish tinge and vary in size from a pin point to one and five-tenths centimetres. At four or five points, at least, small, dome-like elevations are seen springing up between the papillary masses (Fig. 1) ; these have smooth surfaces, and in this way stand out in sharp contrast to the papillary masses which surround them. The fluid from the large cyst is of a dark chocolate color, and histologically contains desquamated, fatty epithelium and red blood corpuscles. The tube presents the usual appearance and the parovarium is intact.

Histological Examination.—The small cysts which form the semi-solid portion of the tumor are lined by high cylindrical epithelium, and projecting into the cavities of many of them are minute papillary masses likewise covered by one layer of high epithelium. In the walls of the cysts are small gland-like spaces, evidently the commencement of new cysts. The cavities of the cysts are filled with granular material and degenerate cells. The walls of the large cyst are composed of connective-tissue cells arranged in parallel layers, and the cellular elements increase as one approaches the inner surface. The cavity of this large cyst is in places lined by very high cylindrical epithelium, the nuclei of which are close to the basement membrane, and the protoplasm of which takes the hematoxylin

stain. This epithelium will end abruptly, the adjoining portion of the wall being covered by low cylindrical epithelium having nuclei situated near the centre of the cell, and protoplasm that takes the eosin stain. The papillary masses seen scattered over the inner surface of the cyst have central stems of connective tissue, which are directly continuous with that composing the cyst wall. They are covered over by cylindrical epithelium. The dome-like masses noted macroscopically present a markedly different appearance; they consist of large cells which contain large, granular nuclei (Fig. 3). Some of the nuclei are round or oval; others are half-moon-shaped or irregular in contour. The chromatin of the nuclei is finely or coarsely granular. Scattered throughout these nodules are large, irregular plaques of protoplasm; some of these are oval or round and contain anywhere from two to ten large nuclei similar to the surrounding ones. Other masses of protoplasm are irregular and contain masses of deeply-staining chromatin which may assume almost any shape. Here and there between the cells of the new growth are small round cells. Over the margins of the nodules the cylindrical epithelium is still present, but at their convexities has disappeared. We must consider these as sarcomatous nodules, and they have evidently originated from the connective tissue immediately beneath the epithelial lining.

EXPLANATION OF THE PLATE.

FIG. 1, a, represents a portion of the large cyst wall, twice enlarged. In the left lower corner the typical papillary appearance is noted, while in the left upper corner and on the right side the smooth but slightly undulating surface of the cyst wall is visible. Occupying the centre of the field is a large, dome-like nodule; to the right and above, a somewhat smaller one; below, three similar nodules. These are sarcomatous masses. Fig. 1, b, is the above on cross section. On the left the delicate papillary masses can be distinctly seen. The thickness of the sarcomatous nodules is well shown, and between some of them are delicate papillary masses.

FIG. 2 ($\times 35$) shows a sarcomatous nodule on section, and also the papillary masses on either side. The underlying connective tissue is poor in cell elements and contrasts sharply with the superficial sarcoma, the cells of which are very abundant. The nuclei are round or irregular, and in the pale staining area are very large.

FIG. 3 ($\times 435$) is a highly magnified portion of the sarcomatous nodule seen in Fig. 2. In order to appreciate the size of the cells we will look at the small, round, deeply-staining nuclei scattered throughout the tissue; these are mononuclear leucocytes—further, just above the centre of the field, is the horseshoe-shaped nucleus of a polymorphonuclear leucocyte. The majority of the sarcoma cells have round, oval or irregularly oval, fairly deeply staining nuclei, and in the nuclei the coarse and fine chromatin granules are easily demonstrable. Surrounding these nuclei is a variable amount of pale staining protoplasm. In the left lower corner is an irregular plaque of protoplasm containing eight nuclei; in the vicinity of the right lower corner an almost circular protoplasmic mass with an irregular, very deeply staining nucleus. Just above and to the left of this is an irregular plaque of protoplasm containing a deeply staining nucleus, to either end of which secondary nuclei are attached by delicate filaments. Scattered throughout the field are numerous similar cells, all showing karyorrhexis. A particularly striking cell is that just above and to the right of the centre; this is markedly irregular in contour, and, besides having a distinct nucleus, contains many coarse granules of chromatin.

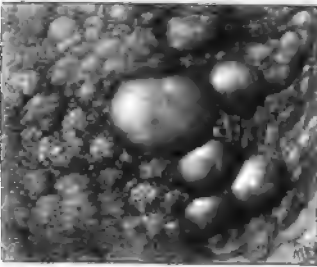
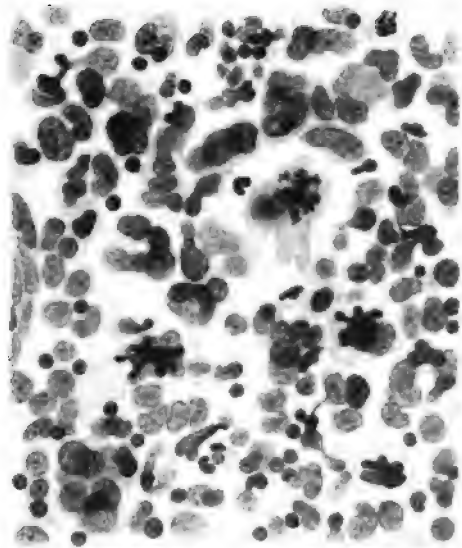


Fig. 1^a



Fig. 1^b

x 2



x 425

Fig. 3



x 35

Fig. 2

CULLEN.—Sarcomatous Nodules on the inner surface of a Multilocular Adeno-Papillo-Cystoma of the Ovary.

PAN-HYSTERECTOMY FOR FIBROID IN AGED WOMEN.¹

BY

WILLIAM A. EDWARDS, M.D.,

Fellow of the College of Physicians of Philadelphia; formerly Instructor in Clinical Medicine in the University of Pennsylvania; Physician to St. Joseph's Hospital; Associate Pathologist to the Philadelphia Hospital, etc.,
San Diego, Cal.

PAN-HYSTERECTOMY for fibroid in aged women presents several interesting features: First, the indications for the operation; they must be clearly defined in order to justify our submitting an aged woman to an operation of so critical a nature. Second, the peculiarities of the operation, due to the age of the patient and the nature of the growth. Third, the pathological changes in the growth incident to the age of the subject. The mortality from this operation was formerly appalling, but with modern methods of technique we can perform upon aged women operations that but a few years ago would have been hardly justifiable even upon comparatively young women. This, for example, is shown by Kelly and Sherwood's tabulation of a hundred cases of ovariectomy in women over 70 years of age, to which I had the honor of contributing one case—a woman aged 70 who recovered without complication from the removal of a multilocular cyst of the left ovary weighing thirty-eight pounds. Of this series of a hundred cases eighty-eight recovered and twelve died, or a mortality of twelve per cent; three patients above 80 years recovered. Since the appearance of this report older women have been operated upon successfully.

The history of my present case is briefly as follows: Mrs. A., aged 66 years and 8 months, white, widow, weight eighty-five pounds, first consulted me December 19th, 1894, for a condition that the former attendant had considered sciatica. An examination revealed the presence of a tumor whose character and impaction in the pelvis were responsible for the neuralgic pains. The tumor occupied the basin of the true pelvis, extending upward for about nine centimetres toward the right, and could be outlined with startling distinctness as a mass of

¹ Read before the Medical Society of the State of California, April, 1896.

stony hardness. The ovaries could not be palpated. The woman was in fair health, but emaciated. A careful examination of all the organs and a critical study of the secretions demonstrated their healthy condition. The urine was normal, and the stomach secreted the normal percentage of HCl and pepsin after the usual test breakfast. The indication for operation was then very clear—the relief of an unendurable pain—so on January 29th. 1895, with the assistance of Drs Cofer, Merriweather. Mead. and Van Vranken, the growth was removed by abdominal incision. A hysteromyomectomy and a double salpingo-oöphorectomy was performed. The tumor was absolutely solid and resembled true bone more nearly than any similar growth that I have ever seen. It was incarcerated in the pelvis, and it was impossible to ligate the ovarian or uterine arteries on either side before dividing the tissues, so that those on the left side were divided and the ligature applied after the growth was lifted sufficiently to give room. There was but little hemorrhage from these vessels, on account of the advanced state of atheromatous change, which was so great in the uterine artery of the right side that neither my assistants nor myself could distinguish its pulsation.

The growth, the uterus and its appendages were removed in the manner that Kelly¹ has made so popular, which is briefly as follows : “Ligation of the ovarian vessels near the pelvic brim, either on the right or left side, clamping them toward the uterus, and cutting between. Ligating the round ligament of the same side near the uterus, cutting it free, and connecting the two incisions in order to open up the top of the broad ligament. Incision through the vesico-uterine peritoneum from the severed round ligament across to its fellow, freeing the bladder, which is now pushed down with a sponge, so as to expose the supravaginal cervix. Pulling the body of the uterus to the opposite side to expose the uterine artery low down on the side opened up. The vaginal portion of the cervix is located with thumb and forefinger, and the uterine artery, seen or felt, is tied just where it leaves the uterus. It is not always necessary to tie the veins. The cervix is now cut completely across just above the vaginal vault, severing the body of the uterus from the cervical stump, which is left below close to the vault. As the last fibres of the cervix are severed or pulled apart, while the body of the uterus is being drawn up and rolled out in the opposite direction, the other uterine artery

¹ Johns Hopkins Hospital Bulletin, February and March, 1896.

comes into view and is caught with the artery forceps about an inch above the cervical stump. Rolling the uterine body still further out, the second round ligament is clamped and cut off, and lastly the ovarian vessels are clamped at the pelvic brim, and the removal of the whole mass, consisting of the uterus, tubes, and ovaries, is completed. After the enucleation the operation is finished in the usual way by closing the cervical tissue over the cervical canal, and then by drawing the peritoneum of the anterior part of the pelvis (vesical peritoneum and anterior layers of broad ligament) over the entire wound area and attaching it to the posterior peritoneum by a continuous catgut suture."

The Trendelenburg position was used. Convalescence was uninterrupted save for the infection of the skin by the staphylococcus epidermidis albus, which was readily controlled by a five per cent solution of pyrozone.

We may now consider the three divisions of our subject *seriatim*:

I. The indications for the operation in the aged. Experience has shown that, other indications being present, we may to a certain extent disregard the age of the patient. The mortality will not be high even in the aged, and is rapidly approaching that of ovariectomy, which, in women over 70, is about twelve per cent. Johnson¹ tabulates the following conclusions, which are of interest in our present study: 1. The rule of text books that uterine fibromata cease to grow after the menopause has many more exceptions than is generally supposed. 2. When they continue to grow after the menopause they pursue a more disastrous course than before. 3. They more frequently become cystic, calcareous, or have abscesses develop in them. 4. These conclusions furnish additional indications for more frequent and earlier resort to the radical operation. It is interesting to note the rate of progress in these matters, for so recently as 1892 as careful an observer as Baldy² seems to draw the age line for these operations at 40 years, except those cases which have gone several years past the menopause, with excessive, uncontrollable bleeding or recurrent attacks of peritonitis. On several occasions Baldy³ has found it necessary to remove the uterus together with the fibroid in women of 48 or 50 years of age.

¹ Annals Gyn. and Ped., February, 1892.

² Univ. Med. Mag., December, 1892.

³ Trans. Coll. of Phys., 3d s., vol. xiv., p. 184, 1892.

The remaining indications for operation being the same in aged women as in those who are much younger, it will not be necessary to recall them here. We have seen, then, that the indications in aged women are about the same as those in the young, except that we are more apt to meet fibroids which have undergone degeneration, either benign or malignant, and that recent work has shown that we must not allow the advanced age of the patient to deter us from operating if the other conditions plainly demand operative interference.

II. The peculiarities of the operation itself, due to the age of the patient and the nature of the growth, and (III.) the pathological changes incident to the age of the subject, are varied and interesting. The patients are rarely entirely free from intercurrent or concomitant disease, either directly associated with the fibroid from pelvic pressure, or encroachment on the abdominal viscera, particularly the renal apparatus, as in a recent case of fibroid in a woman aged 67, in whom I was able to demonstrate almost total occlusion of the right ureter by the Kelly method of cystoscopy, ureteral exploration and catheterization.

The arterial system may show the effect of advancing years, and we are apt to find, as a constitutional danger in our surgical manipulations, the so-called triple lesion of the clinicians—cirrhosis of the liver and kidneys and valvular defect of the heart. In other instances the arterio-capillary fibrosis of Gull and Sutton is present—a pathological change which was marked in our case, in whom the arteries were very atheromatous. This condition has also, within the month, presented me a most interesting example of embolism as a complication in abdominal and pelvic surgery in aged women.

Another peculiarity which must be borne in mind is the possibility of the development in the aged of that curious condition known as traumatic dementia or post-operative insanity, an illustration of which occurred in my practice a few years ago in operating on a case aged 78. This dementia is usually a precursor of a fatal termination, irrespective of any septic infection or, indeed, of any demonstrable lesion.

Recent literature has shown that occasionally a benign fibroid undergoes carcinomatous change in the aged; that they sometimes become edematous and are then apt to become gangrenous. Electrical treatment may provoke very disastrous results, particularly in aged women.

Winckel finds that more than one-half of all the cases of fibroids which come to the physician do so before their fortieth

year, and almost one-third before the thirty-fifth, and that about one-fourth complain of symptoms before their thirtieth year.

It is probable that myomata develop most frequently at the end of the third and the beginning of the fourth decade. It is on this account that aged women present fibroids of many years' duration, and also many of the pelvic and abdominal complications of long-existing disease, these of necessity very seriously complicating operative manipulations.

A careful search through the literature at my command, which includes the "Index Medicus" for several years and the Index Catalogue of the Surgeon-General's Office, does not reveal a reference to the removal of a fibroid from a patient whose age is given as over 50, with the single exception of a case, reported by J. K. Thornton,¹ of a hysterectomy for fibromyoma uteri in a patient 56 years of age.

I have no doubt that many operators have removed these growths in old women, but the titles of their papers do not indicate this. It is another illustration of the lack of exactness in medical literature.

1854 FOURTH STREET.

A CASE OF TUBAL PREGNANCY WITH AN ANOMALOUS DISPOSITION OF THE TUBE.

BY

MARY H. McLEAN, M.D.,
St. Louis, Mo.

(With one illustration.)

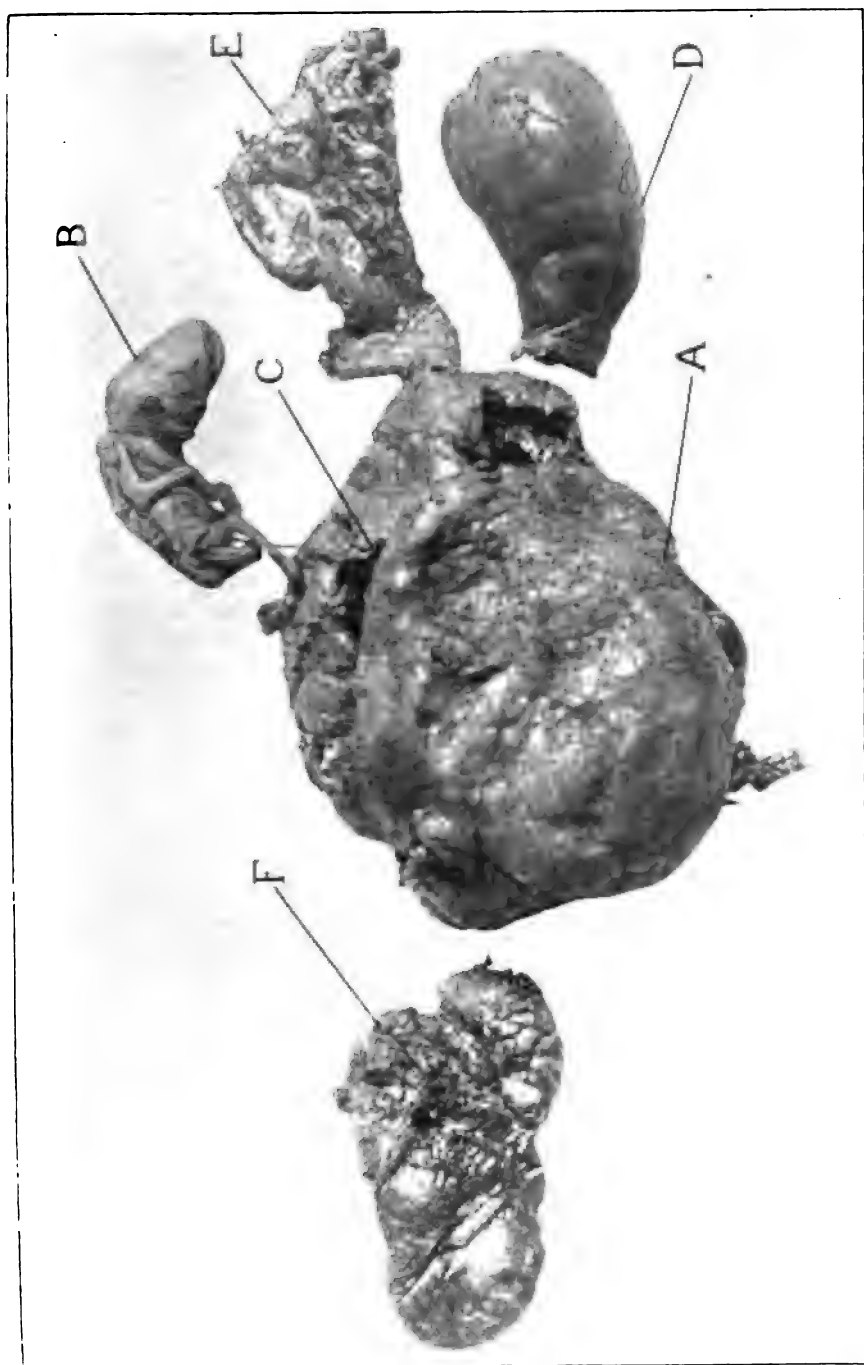
Mrs. C. E., æt. 26; was never strong. In early childhood she suffered with weak digestion, and with a naso-pharyngeal inflammation which resulted in partial deafness. The neo-pause occurred at 17; menses were regular and normal. Was married in October, 1890, and was delivered of her first child in January, 1894. Labor was severe and resulted in vaginal and perineal tears, which were immediately repaired. The child died on the third day and the mother was greatly disturbed. Involution was imperfect and was only completed after some gynecological treatment of a simple nature. Her health was then fair for a year and a half.

¹ London Lancet, 1887, i., 672.

She menstruated profusely from August 18th to 22d, 1895, and missed the September period. In September she twice had a fall from a fence, which jarred her severely. On October 28th I was called in haste and found the patient suffering intense paroxysms of pain in the region of the gall duct, with obstinate constipation and with a pulse of 50. A passing gall stone was suspected. She had at this time a dark, malodorous, sanguineous discharge from the uterus which had lasted more than a week. The paroxysms of pain in the right hypochondrium recurred several times, necessitating the use of morphine. The abdomen became distended and sensitive. On the fourth day, after repeated enemata, the bowels moved, discharging an egg-sized ball of tightly packed apple skin apple seeds, and an irregular gall stone. After this the tympanites decreased, but tenderness in the left ovarian region remained, with occasional dark uterine discharges containing shreds.

A tubal pregnancy was suspected and the patient was examined under chloroform. Some slight general enlargement of the left appendages was found and a fundus enlarged to the size of a two months' pregnancy. The patient improved and had been cautiously sitting up for several days, when, on November 10th, the abdomen again became distended and the bowels constipated, with some pelvic tenderness. On November 13th, while absolutely quiet in bed, she was taken with a pain in the pelvis and faintness, which was followed by a weak pulse of 125 to 130, and a few hours later by a rise of temperature to 102°. Again tubal pregnancy seemed probable and she was closely watched. She rallied, however, and had no further evidence of decided internal hemorrhage, although she several times had a short attack of faintness with rapid pulse. Shortly after the hemorrhage there was decided tenderness over McBurney's point and some ill-defined swelling in that region. This passed away after two days, and for two weeks there was tenderness on pressure in the left iliac region, with an indefinite swelling. The abdomen was more or less distended for fully four weeks, during which period the temperature ranged from 99.2° to 101° F. Meanwhile an elastic tumor in the median line grew rapidly, and developed so symmetrically as to closely simulate a pregnant uterus.

The patient sufficiently recovered to be up part of each day, and was free from fever after the 6th of December. However, she did not gain strength satisfactorily, and was in bed several days every four weeks with a thick menstrual flow. In late



A, fetal sac; B, fetus; C, attachment of cord; D, fimbriated end of left tube; E, left ovary and section of tube; F, right tube and ovary.

December it was noticed that the abdominal tumor was smaller and harder than before; in late January it seemed still harder and of the same size. Supposing at this time that the uterus contained a blighted ovum, it seemed wise to remove it and to curette and irrigate the uterus. This was attempted, under chloroform, on February 9th, 1896, when it was found that the sound entered the uterus in a retroverted position to the extent of three inches, and that a tumor of the size of an orange was closely adherent to the anterior wall of the uterus. To the left were felt two small, flaccid cysts, which were supposed to be knuckles of a sacculated tube. No placental tissue was found in the uterus. Dr. Paul Y. Tupper was called in consultation. He confirmed the physical signs in the pelvis and advised an early exploratory section. No positive diagnosis was made of the nature of the tumor, but it was thought to be a dermoid with inflammatory adhesions.

On February 19th an abdominal section was made and the tumor was found directly in the median line, perfectly symmetrical, and densely adherent both to the anterior parietes and to the uterus. The sac was ruptured in the enucleation and a macerated fetus of about three and one-half months' development protruded through the rupture. The fimbriated extremity of the left tube was found distended with blood clot and adherent to the bowel and to the posterior abdominal wall near the second lumbar vertebra. This end of the tube was torn off in the enucleation. The ovary, in a mass of inflammatory tissue, was removed with the rest of the left tube. The right tube was found dilated and partly filled with clear fluid and adherent to the corresponding ovary in the iliac fossa. It was removed. As there was some oozing from ruptured adhesions, I irrigated the cavity with a hot, normal saline solution and used a glass drainage tube for forty-eight hours. The patient made an excellent recovery, with primary union, and left the hospital at the end of the third week.

The proximal end of the left tube is almost normal in size for an inch and a half. At this point it expands into the sac about four inches in its greatest diameter, which is filled with layers of blood clot. The escaped fetus is macerated and shrunken, and is attached through the cord to the upper anterior wall of the sac. The distal extremity of the tube for two inches is distended with blood clot to a diameter of an inch or more. The junction of the sac with the distal end is not found; an inch or two of the tube is buried in a mass of adhesions about

the ovary. The right tube is distended with clear fluid, and is twisted and sacculated by adhesions which include the enlarged ovary.

The case is interesting on account of the unusual disposition of the tube, the limitation of the hemorrhage by the tubal walls, and the difficulty in diagnosis. In the literature at my command I have been unable to find any record of a similar case. That such cases have been seen, however, is evident from the reference to the condition found in J. Clarence Webster's late work on "Ectopic Pregnancy." He says, on pages 176 and 177: "When the tube lies in the pouch of Douglas, or, rarely, in the utero-vesical pouch, the distinction may readily be made out if the gestation sac can be pushed upward out of the pouches. When, however, the sacs are wedged in the pouches or adherent to the uterus, so that they cannot be elevated, one may often feel a distinct grooving between the two swellings, and usually the softer cystic nature of the one and the firmer nature of the other can be made out. Sometimes this grooving is obliterated by adhesions and cannot be distinguished; in these cases it may be very difficult to determine the outlines of the uterus or the position of the fundus."

In my case it is probable that the severe jar received in the fall from a high rail fence displaced the pregnant tube forward and set up sufficient irritation to cause adhesive inflammation. The tubal walls, thus fortified by the abdominal wall in front and the uterus behind, were able to resist quite a free hemorrhage. The dense adhesions so obscured the physical signs that the diagnosis was not made, although the history clearly suggested an ectopic pregnancy.

I report the case in the hope that it may aid others in the diagnosis of similar cases.

3884 DELMAR BOULEVARD.

HYPNOTIC ANESTHESIA.

BY

THOMAS BASSETT KEYES, M.D.,
Chicago, Ill.

THE greatness of the hypnotic achievements of modern times is tarnished not a little by superstition—scepticism is king—and wisdom is permitted to speak only when it does not conflict with selfish considerations.

As a procedure for the production of anesthesia, quieting pain and soothing the mind, hypnotism, by various methods, such as songs and incantations, was well known by the Greek and Roman priests, and its use is recorded in the earliest histories. The first scientific account of its use as an anesthetic for surgical purposes was made by Recamer and Baron du Potet about 1821. It was recommended by Cloquet in 1829, and Esdaile began to employ it as an anesthetic in surgery in 1846, since which time it has been used by many prominent operators, such as Azain, Braid, Ford, Lefort, and Tillox. Perhaps the time will come when, with broadened knowledge and improved methods, it will supersede all other forms of anesthesia, at least in the performance of certain operations of which I shall speak later, and in the minor operations, especially upon children; for when a patient can be persuaded by suggestions which lead the mind to control the system and suspend the action of the will, an idea is accepted by the brain and transformed into action.

The idea of sleep is first suggested, and then insensibility and anesthesia, for without the suggestion of insensibility and anesthesia pain would be felt. To all appearances the patient is now insensible and will not react to ordinary stimuli. The suggestions are now directed to produce profound insensibility of the part to be operated upon, and strokes of the hand should be made over the site of the operation, away from the body, thus aiding the brain to produce centrifugally through the inhibitory system the impressions which the suggestions create on that particular part. An operation can now be performed without the knowledge of the patient, who upon awakening has experienced only a refreshing sleep, suggestions having been made to that effect and to the production of a cheerful confidence as to a successful result of the treatment. This suggestion is worthy of consideration, as it is well known that while the cause of illness may have been removed by a surgical operation, the reflex symptoms will often remain, and suggestions of the relief of these symptoms should be made while the patient is in the hypnotic sleep.

In a limited number of cases which I have carefully observed no surgical shock was produced. Is not this better than to experience the after-effects of chemical anesthesia and risk the dangers of vomited matter? Hypnotic anesthesia is not practicable in many cases, as some persons are less susceptible than others, and the success met by different observers varies. I believe, however, that all persons can be more or less easily hypnotized and all of sane mind will meet with some success in

bringing on the condition. To approach the patient with the utmost assurance and confidence is of great importance, and this is possible only after experience. A hypodermatic injection of morphine will often greatly assist in any of the methods of producing hypnotic sleep.

In inebrates and persons suffering from organic diseases this form of anesthesia should be carefully considered and tried before all others.

The importance of complete or partial hypnotic anesthesia during childbirth cannot be overestimated, and every obstetrician should become proficient in its production. Among those who have recommended and used it for this purpose may be mentioned De Young, Fillossier, Liebault, Thomas, Pritzl, Secheron, and many others. By its use there is no abolition or weakening of the uterine contractions, but the weak, painful, and ineffectual efforts of a worn-out, nervous patient may be converted into regular, successful contractions and the danger of post-partum hemorrhage be thus materially diminished.

In conclusion, the greatest propriety of hypnotic anesthesia will be found :

1. In cases of inebriety and of organic disease where chemical anesthesia would be dangerous.
2. In parturition.
3. To relieve by hypnotic suggestion at the time of an operation the nervous disturbance and reflex neuroses caused by certain pathological conditions.
4. While performing minor operations upon children.
5. As an aid in the production of anesthesia by chloroform and ether, as suggested by Davis,¹ to allay the excitement occurring at the beginning of anesthesia, and to obviate the necessity of holding the patient upon the table by force.

100 STATE STREET.

DERMOID CYSTS OF BOTH OVARIES.

BY

BASIL M. TAYLOR, M.D.,
Greensburg, Ky.

THOUGH the ovary is a favorite seat of dermoid cysts, I can find but two recorded cases in which the patient gave birth to a child when both ovaries were involved in this way. Paupenel

¹ Journal of the American Medical Association, October 5th, 1895.

has gathered data in regard to forty-four cases in which dermoids of both ovaries existed, but makes no mention of any of them giving birth to children. Cullingworth reports a case where both ovaries were apparently involved and the woman bore twelve children and had one miscarriage three months before operation. Mundé, in his report of the work at the Mount Sinai Hospital, records the case of a woman with dermoid cysts of both ovaries who was pregnant at the time of operation.

I add the following case to the list :

Mrs. V., colored, aged 33 years; married seven years; oldest child 5 years of age. She had a miscarriage at three months in 1892, and a still-born child in December, 1893. Her third child was born in August, 1895. All of her labors were easy and lasted about six hours.

She noticed in the right iliac region, about six years ago, an enlargement which has grown steadily since, and was, when I saw and examined her in April, about the size of a child's head and reached the umbilicus. She readily agreed to an operation, which I advised, and three weeks were spent in preparing her for the operation and giving her time to wean her child.

On May 7th, assisted by Drs. Atkinson, Shively, Van Meter, Tucker, and Floyd, I opened the abdomen under chloroform anesthesia, and with a little traction delivered the cyst perfectly free from adhesions, and found the pedicle twisted twice. Hair and an oily substance came through several small openings made by the traction forceps. The tumor and tube were quickly removed, the former being as large as a man's head. The left ovary was about the size of a goose egg and tightly adherent to the floor of Douglas' pouch. In trying to separate the adhesions a small hole was torn in the tumor and about one drachm of its contents escaped into the pelvic cavity. A lock of hair six inches in length protruded from a small opening in the top of the tumor. While I was carefully separating the adhesions around the ovary the patient ceased to breathe and her pulse became thready. Artificial respiration for at least ten minutes was required to restore the natural function. On account of the patient's condition the adhesions were rapidly separated and the tumor tied off. The abdominal cavity was wiped out with a sponge and closed without drainage. The patient was removed to a bed containing hot-water bottles, and the artificial respiration was continued. Had I waited for respiration on the part of the patient the operation would perhaps not have been completed. She rallied quickly and suffered very little from shock. Convalescence was rapid and

without an unpleasant symptom, except that some trouble was experienced in getting a movement of the bowels during the first fifty hours. They acted only after the administration of several heavy doses of croton oil. The patient's pulse rose to 150, but fell to 120 as soon as the bowels had moved, and gradually returned to normal. She slept well, was free from pain after the second day, had a ravenous appetite, and gained rapidly in flesh. She was kept in bed for three weeks, and in a month was taken to her home in perfect health. Both ovaries were complete dermoid cysts with very thin walls.

SUPERNUMERARY OVIDUCTS, AND TYPICAL HYDATID OF
MORGAGNI, WITH A LARGE UTERINE FIBROID:
HYSTERECTOMY.¹

BY

H. G. WETHERILL, M.D.,

Professor of Gynecology, University of Denver; formerly Gynecologist to St. Francis Hospital; Consulting Surgeon to Mercer Hospital, Trenton, N. J.

(With one illustration.)

THE specimen was removed from a patient, now in St. Anthony's Hospital, on May 25th. Convalescence uneventful. The tumor is a large, multiple fibromyoma of the uterus which was removed by supravaginal amputation and presents anomalous oviducts. To the fimbriated end of one tube is attached a hydatid of Morgagni with an unusually long pedicle.

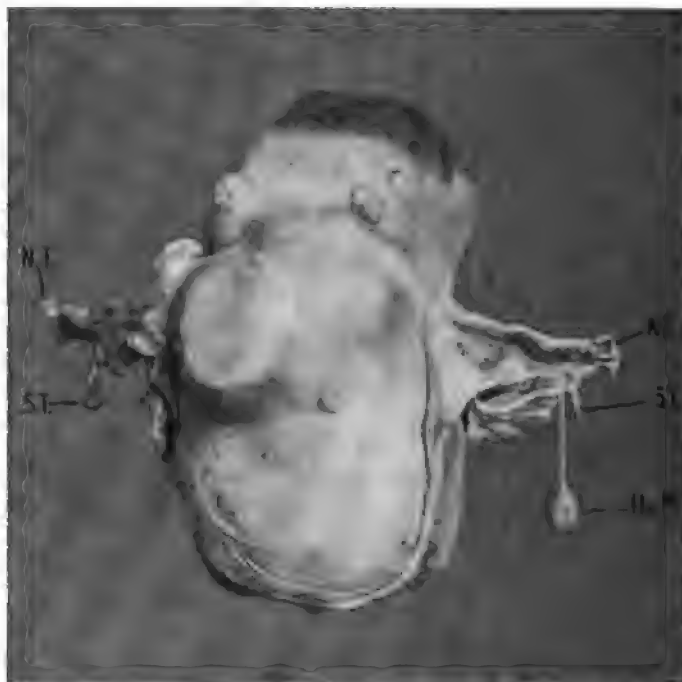
In various text and reference books I find allusion to a supernumerary *ostium abdominale* of the oviduct as a not uncommon anomaly; in a gynecological experience extending over some years, however, this freak of Nature has not before presented itself, and the fact that it sometimes occurs seems to be little known.

Quain, in his "Anatomy," says: "A pedunculated cyst, known as the hydatid of Morgagni, apparently peritoneal in origin, is frequently found attached to one of the fimbriæ of the tube itself. A second smaller fimbriated opening not infrequently occurs at a short distance from the main one." In my specimen, however, there are two distinct supernumerary tubes with

¹ Read at the meeting of the Colorado State Medical Society, held June 6th to 18th, 1896, at Denver, Colorado.

well-defined fimbriated ends, which seem to be more than the "smaller fimbriated openings" to which Quain alludes.

Examination of this specimen shows two extra oviducts (one on each side) just below and in front of the normal ones. By holding the specimen up to the light the tube is seen to run through the broad ligament parallel with the normal tube almost to the wall of the uterus. Its fimbriated end is patulous, but its lumen quickly contracts and is lost. The diameter of the appendage is about one-quarter of an inch on the right side and



N.T., normal tube; S.T., supplementary tube; H. of M., hydatid of Morgagni.

somewhat less on the left. The free end is one inch long on the right side and three-quarters of an inch on the left, both tubes being abundantly fimbriated and with a distinct neck or isthmus near the end. The hydatid of Morgagni is attached to the left normal oviduct and is two and a half inches long. The uterus is not bicornate or in any other way abnormal. The photograph shows the nature of the abnormality, the pediculated hydatid of Morgagni, and the character and extent of the fibroid growth

GYNECOLOGY AND GENERAL MEDICINE :

THEIR RECIPROCAL RELATIONS.¹

BY

CHAUNCEY D. PALMER, M.D.,
Cincinnati.

WHAT is the relation of gynecology to disease in general, and what are their reciprocal relations, are questions which ought much to concern the honest and conscientious gynecologist. There is no such thing as a purely local disease. Any disorder of the body, of whatever kind, degree, or place, has its constitutional relations. These vary in quantity, in intensity, in duration. It is during the period of special functional activity of the female sexual organs that the greatest differences between the sexes are noticed. Anatomists and physiologists have clearly mapped out the abundant nerve supply, especially of the sympathetic, within the female pelvis. The ganglia and connecting nerve filaments are found in greater abundance and are more highly developed in the pelvic organs of woman than man. Her sympathetic nervous system is more sensitive. Clinical experience forcibly impresses our minds with the close and intimate relationship of her pelvic organs to the brain, eye, throat, lungs, heart, stomach, bowels, kidneys, etc., as well as the whole nervous system of the body. Woman, of course, has diseases in kind like man; they vary mostly only in degree. Woman has pulmonary tuberculosis, peritonitis, cancer, and gall stones more frequently than man. But from the inherent excessive delicacy of her organization, because of the complexity of her sexual organs, in function and in structure, she becomes predisposed to, and is the subject of, a vast amount and variety of disease peculiar to herself. Many neuroses of a functional kind—chorea, epilepsy, hystero-epilepsy, hysteria, neurasthenia, neuralgia, and various mental disorders, mania and melancholia—are often connected with, and become dependent on, female pelvic disease, or they are aggravated by certain pelvic physiological functions. While it is probably no exaggeration to state that fifty per cent of all of her special

¹ Read before the American Gynecological Society at its twenty-first annual meeting.

diseases are attributed to and from accidents and ailments during or after gestation and parturition, with her any complications thereof are more numerous and intimate because of her sex. While a woman is more sensitive to and the subject of more pain than her robust brother, she endures it better, withstands more fatigue, a greater loss of sleep and blood, is not enervated so much from sexual abuses, recuperates sooner after disease and injury, and shows greater activity of her nutritional processes.

How does this female organism modify the manifestations of diseased action? Herein we must accept the idea that menstruation is not a purely local function of a few days' duration, but that it is a systemic change, varying in its phenomena at different times within the entire range of the lunar month. The menstrual wave, with its flood and ebb, extends over a period of twenty-eight days. The flood of the tide is at its height, in quantity of blood supply, in vascular tension, in nerve tension, in temperature of body, in physical and mental vigor and strength, at a time just preceding the menstruation, after which, during and for a few days following the uterine flow, comes the ebb of the tide with a lessened blood quantity, a diminished vascular and nerve tension, a reduced body temperature, an impaired physical vigor. The maximum of wave precedes, as its minimum follows, the menses. An increase, normal and abnormal, of nervous as well as emotional susceptibility gives rise at this time to phenomena modifying, if not inducing, many symptoms.

Menstruation very properly may be considered a miniature parturition. The intermenstrual wave is a miniature gestation. Pregnancy, as it advances, gives an immunity to, and protection for, the body against the inroads of septic poisons, for physical resistances are then increased. Parturition and the lying-in state, on the other hand, with its loss of blood, its restricted diet, its diminished vascular and nerve tension, and necessary exhaustion, are especially opportune times for the action of much which is infectious and contagious from within and without. So, too, every menstruating woman shows a diminished bodily resistance to disease.

Many of the more recent works on gynecology contain treatises on the diseases of the mammary glands, the bladder, and the rectum of the female, as well as her special generative organs. This, in my judgment, is as it should be. The mammary glands of the male are rudimentary, have no special

function to perform, and are very rarely diseased. With woman its various structures very often become diseased independent of their intimate association with the organs and functions of her pelvis. The female bladder and rectum give rise to, or become the seat of, disease from ovarian, tubal, and uterine affections, because of their close proximity, their common blood supply with its valveless veins and numerous plexuses, and their intimate nerve relations. A common cause of disease in these organs is very often recognized. With as much propriety might we exclude from gynecology the diseases of the pelvic connective tissue or peritoneum as the affections of the female bladder and rectum. As either may enter into the chain of disease, as cause or as effect, it becomes imperative for the gynecologist to understand their diagnosis and treatment.

How is it possible to separate obstetrics and gynecology? Have not the ablest gynecologists been those who have been experienced, skilful obstetricians? While it becomes the duty of the gynecologist to recognize these mutual relations as very common, close, and clearly defined, and while it is equally true that he ought, if possible, to determine the causative factor in the chain of any diseased action, it behooves him to remember that woman can be sick without having any gynecological disease. Antagonistic symptoms may represent an identity of disease; identical symptoms may express diseases entirely different. Local diseases tend to become constitutional, and constitutional to become local. Local diseases produce secondary constitutional changes or consequences, rather than the continuance of themselves. A local disease loses none of its constitutional nature by its local manifestation. A local improvement is often only commensurate with the general physical betterment. The degree of soundness of a constitution can only be appreciated by local injuries or diseases. Local phenomena without adequate exciting causes bespeak a bad constitution, as does the long continuance of symptoms after the removal of exciting causes. Recovery should be regular in time and method; deviations therefrom are valuable indices of hidden danger.

To the thoughtful inquirer it is plain that the relation of general medicine is an inseparable one. There is very little gynecology outside of the domain of general medicine; on the other hand, there is scarcely a disease of the general system, of any considerable importance or duration, which does not affect the circulation, the enervation, and the functions of the

pelvic organs. There is no class of disease in the female economy which sets up more decided disturbances and complications at large than those of the female pelvic organs. Medicine stands by a linking together of all its parts. A separation of any link implies a break in the whole chain. Female pelvic disease must be learned by studying medicine in its entirety.

Many exciting causes may fail to bring about local disease without some constitutional morbid factor operative in the background. So the constitutional standard of health is revealed. As Paget has said, "the intensity or quantity of a constitutional disease or disposition to disease may be estimated as in inverse proportion to the amount of disturbance requisite to bring about a local manifestation." Many of the chronic diseases of the uterus are chronic only by virtue of a diathetic taint or general imperfection and depreciation of health. Almost every gynecological disease requires some, and a few an exclusive, constitutional treatment. Therefore, that local diseases of the female pelvic organs demand only local treatment is a pernicious doctrine, wrong in theory and dangerous in practice. How often does the condition of the female sexual organs become a valuable indicator of a woman's general health! As no judicious mind would make its verdict from a partial evidence in a case, so no thorough physician will draw his deductions from any investigations short of the whole body.

In this connection there are two words in the English language which express a world of meaning—*retrospection* and *anticipation*. Retrospection always brightens our expectations and cheers our anticipations. Medicine in general, gynecology in particular, has undergone a wonderful revolution within the last decade. A greater evolution is in store for us. To recognize what of the past ought to be buried, what is most fit to survive, what needs our efforts to evolve, are left to us. Specialties in medicine we need. Through them untold sufferings have been prevented or modified, and numberless lives saved. Because the specialist fails to accomplish his mission is not the fault of his system, but the imperfection of his individual onesidedness. While, then, we cultivate our specialty in our efforts to be progressive and useful, let us at the same time be conservative, considerate, broad, and comprehensive in our views. The inevitable trend of modern gynecology is largely to surgery. As no class of affections, the body over, possesses so many ramifications, assumes so many phases, induces such general disturbances as do the chronic diseases of the

female pelvic viscera, the gynecologist must survey the system at large, must recognize the true import and significance of special symptoms. All truths are full, round, and complete. He who seeks the truth should be of no country and belong to no sect. We are physicians as well as surgeons.

AVONDALE.

PLACENTA PREVIA.¹

BY

G. G. SAXE, JR., A.B., M.D.,
Watertown, So. Dak.

THIS case is reported because of its rarity, especially when complicating confinement of a primipara. Dr. W. T. Lusk, in his third edition of "The Science and Art of Midwifery," says: "Fortunately placenta previa is of rare occurrence. Muller, by adding statistics of various investigators, found 813 instances in 876,432 births, or not quite one in a thousand. Lomer, on the other hand, estimates the minimum frequency in Berlin at 1 in 733 births. The proportion of multiparæ to primiparæ is very large—viz., six to one. The causes are unknown. Muller advances the theory that descent of the ovum is effected by contractions of the uterus soon after conception." It might, therefore, be due to an attempted abortion in the early months of pregnancy.

While practising in Edgeley, North Dakota, I was called, on November 23d, 1893, to a ranch twenty-two miles away. The husband reported that his wife had been in labor since the day before, midwife in charge, with a flow of blood which had been increasing with labor pains. Arriving at the house at 7:30 A.M., I found the woman pale and weak; no pains; child living, vertex presentation. The os uteri was dilated to the size of a cent, with boggy mass presenting. Slight pressure against this caused pain and alarming hemorrhage, so chloroform was administered to point of causing cessation of labor. The cervix being rigid, and having no Barnes dilators, I dilated it slowly by the manual method. Chloroform was used freely in intervals of rest, and stimulants were administered. By 1 P.M. the os was dilated to one and a quarter inches, the membranes were ruptured, and the patient gave birth to a slightly asphyx-

¹ Read before the South Dakota Medical Society, June 11th, 1896.

iated female child. The head as it emerged acted as a tampon against the detached portion of placenta, which was not interfered with by the descent of the child. Fearing post-partum hemorrhage, a full dose of ergot was administered. The uterus and cervix closed down on the placenta. Four hours later it was removed by expression and traction. The placenta weighed at least two pounds; it was elliptical in shape, the long diameter parallel to the length of uterus, overlapping the internal os about one inch; cord thirty inches long, central insertion. The child was restored in the usual manner, and mother made slow recovery.

TRANSACTIONS OF THE WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

Stated Meeting, Friday, February 21st, 1896.

Vice-President GEORGE N. ACKER, M.D., *in the Chair.*

DR. JOSEPH TABER JOHNSON presented a specimen of

COMPLETE HYSTERECTOMY FOR CANCER.

He said he felt much apprehension as to the outcome of the case, as there had been complete suppression of urine for forty-eight hours.

DR. J. WESLEY BOVÉE said the effect on the kidneys was probably due to the ether; it might be due to shock or sepsis. What to do was another thing. Cupping over the kidneys and the application of poultices of digitalis should be tried. Pilocarpine and strychnine should be administered, and the bowels and skin should be made to do what the kidneys fail to accomplish.

DR. H. L. E. JOHNSON said that in these cases one ureter might be included in the ligature, when a hydronephrosis or distended ureter might result, which could be easily diagnosed before or after opening the abdomen. He had never seen suppression of urine follow the administration of ether. Unless symptoms of suppression were manifest it was better to leave the patient alone. Perhaps more attention was given to, and closer observation made of, these cases than formerly.

DR. H. D. FRY said Dr. Joseph Taber Johnson had spoken of the time consumed in the operation: half an hour in the anterior colpotomy and an hour in the abdominal section. He thought that as the time was largely consumed in ligations low down, time might have been saved by doing more work through

the vagina and then less time would have been required in the upper opening.

DR. I. S. STONE said Dr. Joseph Taber Johnson's patient was still suffering from shock. In a case of his own upon which he operated there was suppression lasting for nine days, when she suddenly died. Had seen several deaths from suppression due to ether. There was sometimes serious trouble with the kidneys without the urine giving any sign.

DR. J. FOSTER SCOTT read a paper entitled

GONORRHEA IN WOMEN.¹

DR. I. S. STONE said that, after the very clear and concise résumé of gonorrhea in women given by the essayist, he would discuss the subject from the standpoint of the surgeon. Marriage was the most important consideration. It was stated in the "American System of Gynecology" that when the gonococcus was present it sometimes failed to infect. He was somewhat sceptical as to many of the statements of the bacteriologists as to infection. He referred to a case of gleet, the patient having been treated by a specialist for stricture; the man married, and Dr. Stone was firmly of the opinion that the wife would become infected and in consequence fall into the hands of the surgeon. He related a case of a man who had had gonorrhea three years before his marriage; but he infected his wife, and as a result pus cavities formed with most serious consequences. A man who had once had gonorrhea was a candidate for another attack. He would not allow a man to marry after having had gonorrhea. When do we know that a woman is cured of gonorrhea? It is even more difficult to say of them than of men. No woman's vagina or uterus could be thoroughly cleansed of the gonococci; and it was possible to infect simply by depositing the gonococcus upon the vulva, from whence it would traverse the entire genital tract. He would advise hysterectomy in cases in which the whole tract was involved.

DR. T. RICHEY STONE (a visitor) said: From a genito-urinary standpoint there are many things necessarily characteristic to pronounce the urethral discharge as being distinctly "specific." (1) the presence of the "gonococcus of Neisser"; (2) the habitat of these micro-organisms in the lymphoid and epithelial cells; (3) their possessing the quality of being stained with one of the many aniline dyes, (4) and especially of becoming decolorized when subjected to "Gram's method." In 1879 Neisser gave to the medical world his discovery of this micro-organism, and thereby ended the many hypothetical discussions and at the same time placed his achievement (which has since been proven) upon a sound, scientific basis.

Of course, most naturally, this notice of Neisser's would hardly have gone unchallenged by the many bacteriologists who arrayed themselves against the achievement, claiming that "diplococci undifferentiated morphologically from gonococci"

¹ See original article, p. 384.

had also been found in pus from other parts of the body and at the same time from cases that had never had gonorrhea.

Fortunately for the advancement of science, all these doubts were put to an end when Bumm, on coagulated human blood serum, first cultivated this micro-organism, and again was the first to inoculate with the product of this cultivation, thereby producing "gonorrheal urethritis," which at once proved the etiological significance of the "gonococcus."

Wertheim corroborated Bumm's cultivation, but improved his (Bumm's) culture method by using a mixture of nutrient agar and human blood serum, which he found better. Wertheim obtained his pus from seven cases of pyosalpinx, two cases of ovarian abscess, and one case of peritonitis secondary to pyosalpinx. All of these cultures gave characteristic urethritis.

Gebhard, Risso, Menge, and others have also cultivated the "gonococcus."

Steinschneider, a pupil of Neisser's, again modified Wertheim's medium by adding sterile urine to the human serum and agar (using the greatest care in making his culture medium sterile), and with these cultures demonstrated the production of urethritis.

Touro, of Barcelona (1894), reports having cultivated the gonococcus upon simple "acid media" (gelatin and peptone bouillon). He states that the alkaline media are not appropriate for the production of the gonococcus, as its virulence is destroyed and development restricted. He also claims that cultures made on an alkaline medium are non-pathogenic for dogs and will not produce the discharge, but on acid media they will. I can find no verification of this, and have been told that Dr. Reed, of the Army Medical Museum, has also failed in this interesting experiment. Bumm's twentieth culture and Alfosa's twelfth culture produced typical urethritis.

The picture the microscope presents is this micro-organism, which is easily seen, measuring 0.8 to 0.1 micro millimetre in length and 0.6 to 0.8 micro-millimetre in width, and is shaped like a kidney, coffee bean, or Vienna roll. It usually occurs in pairs or a number of pairs, divisible by two or four, with their flattened surfaces looking toward each other. They are never found in lines, but in groups.

The morphological character of the gonococcus is that the groups are situated partly between the cells, partly (and this is characteristic of the gonococcus) in the pus and epithelial cells. Thus we find cells in which a single group or a few groups of gonococcus are situated in the protoplasm, usually near the nucleus. In other cells the number of gonococci is larger; they extend on one side or the other to the edge of the cell, but never beyond it, thus proving their presence within, not upon, the body. Finally, other cells are so full of gonococci that they conceal the nucleus. When this takes place the cell twists and the group of cocci escape from the cells. We then find not infrequently that groups of cocci are arranged between one, two, or three cell nuclei, but without the sharp

contour of the cell body. They are generally aggregated closely toward the middle and loosely toward the periphery.

I may here be pardoned for giving a quick, ready method of preparing a slide for examination. Your cover glass having been thoroughly cleaned (first a bath in sulphuric acid, washed free of the acid and kept in absolute alcohol), a small particle of the discharge (about the size of a pin's head) is placed upon one cover glass, and with another cover glass a rotary, smearing motion is given. The two cover glasses are then placed or floated upon your aniline solution, specimen side down, using either methyl blue or gentian violet, which is made by dropping from a saturated solution of the dye used, drop by drop, into a test tube until your water becomes distinctly the color of the dye used. Do not make your bath too deep in color. After a few minutes in the aniline bath the cover glass is to be washed free of excess of coloring matter, dried by a blotter, mounted in either glycerin or damar xylol, a one-twelfth Zeiss immersion lens and Zeiss cedar oil used, and your slide is ready for examination. A very pretty staining is the double stain, which is to first subject your cover-glass specimen to a concentrated alcoholic solution of eosin, heating (blotting off excess without washing with water), and then putting on a concentrated alcoholic solution of methylen blue for fifteen seconds. This will show the cocci stained blue upon a red ground; the cellular elements of the blood or pus having eagerly absorbed the eosin, while the nuclei and micro-organism appear blue.

Gram's method of decolorizing is: To fresh aniline water (aniline oil shaken well with water and then filtered through a moistened filter paper) a concentrated alcoholic solution of gentian violet is added, drop by drop, up to the point of saturation—i.e., until the liquid loses its transparency. The cover glass is allowed to float on this solution for ten minutes. It is then washed with water and placed for five minutes in a solution of iodine one part, iodide of potassium two parts, distilled water three hundred parts, and from there put in absolute alcohol, where it remains until no more color can be extracted. After a renewed washing the preparation is subjected for half a minute to a second process of staining in a weak (light-brown) watery solution of Bismarck-brown or vesuvin, washed again with water, and then, being mounted, is examined. The picture presented will be other diplococci of a blue color and the gonococci brown. The importance of a guarded diagnosis and value of the gonococcus presence is shown by a case that appeared at my office—a young man much excited and having the characteristic discharge of urethritis. I knew nothing of his condition in life, and told him I could make no diagnosis until I had examined the discharge, which I did, and found no gonococci. The case turned out to be a case of bridegroom with justified causes for the discharge. One of the most interesting points that this paper should bring out is the latency of gonorrhea in the female as well as the male.

Wertheim has shown "that only young gonococci are stained

by aniline solutions, while old cultures do not imbibe the staining fluid." He (Wertheim) also says: "Old gonococci lose their typical forms, and thus changed we no longer recognize them as gonococci. They become granular spheres, variable in size and indefinite in outline." Wertheim further writes that this change of form occurs if the culture medium is exhausted and no longer nutritious; and he thoroughly proved the correctness of this hypothesis, because he succeeded in raising typical gonococci by transplanting the aforementioned altered forms into fresh culture media. Thus it is seen how very hard it is to pronounce a chronic discharge as being innocuous without first having had made a culture. Lawson Tait and others believe that gonorrhea is never cured, but I think that this view is too far in the extreme.

Bröse believes that nearly all public prostitutes are afflicted with chronic gonorrhea, although Fournier's statistics do not bear this out; but this discrepancy may be due to the fact that these statistics antedate the Neisser theory.

Dr. W. R. Pryor, in a paper on "Latent Gonorrhea in Women," gives the following results (the microscope being alone used and no cultures made) in one hundred and ninety-seven prostitutes: Cervix uteri: gonococci were found in thirty-three and one-third per cent. Vagina: in only one case was the pure gonococcus found alone, and in six cases it existed in conjunction with other germs. Urethra: one hundred and twelve women showed gonococci. He also states that fifty-three gonorrhoeic women were kept under observation for five months; at the end of that time the gonococcus was found in the cervix of seventy-five per cent. "The gonococcus seeks the racemose glands for its habitat. The lymphatic tissues and lymphoid endometrium it occasionally invades. Therefore we find gonorrhea as a latent disease in women in the compound racemose glands of the cervix, the vulvo-vaginal glands of the urethra. Women, especially *puellæ publicæ*, who contract gonorrhea, usually stop treatment just as soon as the disagreeable symptoms abate, and consider further treatment unnecessary, as they are indifferent to any consequences save personal revenue. The conclusions safely deduced may be that the gonococcus of Neisser has been proven and does exist and is pathogenic of this disease, but for practical diagnostic value a culture, with its necessary microscopical examination, should always be made where the slightest doubt exists.

DR. JOSEPH TABER JOHNSON said there were two points that he would notice. He agreed with the statement that to have gonorrhea was a greater calamity than to have syphilis. He also agreed to the proposition, and thought it conservative, to remove the tubes and uterus when they were infected with gonorrhea, as flushing the genital tract with disinfectants will not remove the gonococci. The uterus ceased to be of any use after the tubes and ovaries were removed.

Stated Meeting, March 6th, 1896.

Vice-President SAMUEL S. ADAMS, M.D., *in the Chair.*

SPECIMENS.

DR. H. L. E. JOHNSON presented cystic ovaries and tubes.

DR. I. S. STONE presented a specimen from a case of appendicitis; also a specimen from a case of supravaginal hysterectomy by Baer's method.

DR. JOSEPH TABER JOHNSON presented a specimen from a case of supravaginal hysterectomy by Baer's method.

DR. J. WESLEY BOVÉE presented the following :

I. A TUBO-OVARIAN CYST

removed by laparotomy, March 3d, 1896, from a woman 38 years of age, white, and married. She had led a rapid life and was addicted to the use of opium, whiskey, and tobacco. She had not menstruated since July, but presented no symptoms of pregnancy. She was referred to him by Dr. J. W. Bulkley, of this city, and was sent to Providence Hospital. An examination revealed a ruptured perineum, a torn cervix, and a mass of considerable size to the left of the uterus. The uterus was curetted, the cervix repaired, and the perineum restored. After this the abdomen was opened and the mass to the left of the uterus removed without rupture by clamping the broad ligament next the uterus and cutting down just outside the clamp. The remainder of the process was simply to ligate the ovarian artery near its entrance to the broad ligament and to cut away the mass. The second ligature was now placed on the ovarian artery near the uterus. As the right ovary was large from cystic degeneration, it also was removed. The left mass was found to be a very typical specimen of tubo-ovarian cyst. The patient is doing unusually well and will probably recover.

II. RUPTURED TUBAL PREGNANCY OF ABOUT SEVEN WEEKS

removed by laparotomy March 5th, 1896. The patient was a small colored woman, admitted a few days before to Columbia Hospital in a condition of profound anemia—pallor of the mucous membranes, coldness of the surface, and great weakness. She had had a child three years before and considered herself again pregnant from early in December. Six weeks ago she suffered an attack of great pain in the abdomen and a profuse discharge of blood from the uterus. She called a physician, who concurred in her opinion that an abortion had occurred. The flow had continued nearly continuously since that time, and she had been bedridden. Examination revealed the lower part of the abdomen partially occupied by a loose fluid and the remainder of the abdomen greatly distended by gas. The condition was highly suggestive of ruptured tubal pregnancy, though a positive diagnosis of that was not made before

operation. When the abdomen was opened the discharge of dark blood, of the consistence of molasses, was still more suggestive of the condition mentioned. The uterus was found enlarged, the right appendages normal. The left fimbriated extremity was down in Douglas' pouch and partially held the membranes of the fetus, the remainder being in the peritoneal cavity surrounded by blood clots. The fetus was found loose in the peritoneal cavity and seems to be of about seven weeks' development. The clots were washed out, after removal of the appendages and conception products, and the wound completely closed by buried catgut suture. She recovered well from the effects of the operation ; she is doing well.

DR. I. S. STONE read an essay entitled

SOME POST-OPERATIVE RESULTS OF GYNECOLOGICAL SURGERY.¹

DR. J. THOMAS KELLEY, JR., said the question of ligatures was an interesting one. He had seen two or three cases in which the ligature was a cause of suppuration. He had seen some cases, that could not be called bad ones, that were worse off after an operation.

DR. J. WESLEY BOVÉE said that silver wire had a distinct antiseptic property which prevented its becoming infected. Catgut was the best absorbable ligature. Silkworm gut becomes infected. *Fistulæ* were dangerous wounds to deal with. He had a case of fecal fistula following laparotomy in which the rectum was torn. Two movements of the bowels occurred within twenty-four hours, which was rare. He introduced a rubber tube into the rectum, which relieved the distension.

DR. J. FOSTER SCOTT suggested that stretching the sphincter ani would have been beneficial in Dr. Bovée's case.

DR. JOSEPH TABER JOHNSON said he had a case similar to Dr. Bovée's in which he stretched the sphincter with benefit.

DR. J. WESLEY BOVÉE said that stretching the sphincter would have brought about just what he wanted to avoid in his case—stimulation of the rectum.

DR. F. S. NASH said he was as much a believer in the use of the knife in proper cases as was Dr. Johnson or any other surgeon ; but he thought that needless operations had been inconsiderately done.

DR. SAMUEL S. ADAMS thought that here was an opportunity for the general practitioner to deal charitably with the surgeon, for the former makes many mistakes of which he alone is aware. He thought we should sustain the abdominal surgeon. Many of the cases that come back to plague him were of the neurasthenic kind, and they were a plague to any physician.

See original article, p. 321.

Meeting of March 20th, 1896.

The President, GEORGE BYRD HARRISON, M.D., in the Chair.

DR. H. L. E. JOHNSON exhibited

A MODEL OF THE PITKIN OPERATING TABLE,

which he said had all the features of the Harvard chair. It is constructed of metal, the top being hollow, through which hot water may be kept flowing during prolonged operations.

DR. GEORGE N. ACKER reported

A CASE OF CONGESTION OF THE CORD IN A CHILD;
RECOVERY, FOLLOWED BY TYPHOID FEVER WITH PHLEBITIS.

W. G., male, white, æt. 9 years, entered the Children's Hospital October 8th, 1895. The family history is good. The boy has had no diseases of childhood. He has always enjoyed good health. About five weeks before a lack of co-ordination was noticed in his walking, and since that time inability to use his legs has become marked. There is no history of any injury, but the child was of an active disposition, jumping from high places, etc. There have been no pains in back or limbs, or any muscular cramps or spasms.

Condition on Admission.—He is well nourished. The skin is in good condition. There are no deformities. The arm muscles appear to be smaller than normal, but the leg muscles are not altered in size. He has little control over the muscles of the lower extremities, and is unable to walk or stand alone. When standing the legs are wide apart. When placed on the floor he is unable to get up without aid. He has lost some control over the muscles of the upper extremities, as he cannot grasp with any force. There is a slight pain when pressure is made in the upper dorsal region of the cord. There are no head symptoms. The special senses are in a good condition. The ankle and knee reflexes are somewhat impaired. The sensation of the extremities is not altered, as far as can be ascertained. Lungs and heart normal, also the genito-urinary system. Tongue clean, appetite good, and the bowels constipated. The lower teeth are serrated. He is bow-legged. His mental condition is good.

The child was put to bed and ordered a moderate diet; teaspoonful of elixir of cascara sagrada to be taken at night, and five drops of fluid extract of ergot three times daily, to be increased a drop daily. He was kept in bed until October 30th, when he was allowed to sit in a chair. He could stand alone, and with slight aid walked with a shuffling gait, throwing forward his left foot in a jerky manner. His legs were far apart when he walked. His grasp was somewhat stronger.

November 7th: He walks by himself and lifts both feet.

General condition good. Plays with the other children. Sulphate of strychnine, $\frac{1}{16}$ grain in pill, three times daily, ordered. November 21st: Walking still improved. November 27th: A bulla appeared on the great toe of the left foot; it was opened and dressed. The ergot to be reduced one drop daily. December 4th: Foot well, and he has commenced to walk again. December 12th: His walking is not yet perfect, but much improved. Otherwise in a splendid condition.

January 11th, 1896: The boy still walks with a gliding gait, but is able to lift his feet without difficulty. Runs about and plays with the other children in the ward. Ergot and strychnia stopped. Elixir of iron, quinine, and strychnine, a teaspoonful three times daily, ordered. His grasp is very strong. The cascara sagrada has kept the bowels regular. January 16th: Had a temperature to-day of 103° , pulse 126, and respiration 30, at 1 P.M. At 4 P.M. the temperature was 103.8° . Was put to bed and a fluid diet ordered. Did not complain of pain. January 17th: Is irritable and drowsy; is quiet; has muscular twitchings. Stop medicine. Broncho-vesicular breathing at base of right lung. Temperature 103° to 104° , pulse 124 to 130. Was ordered solution of acetate of ammonium, a teaspoonful every two hours, and sweet spirit of nitre, fifteen minims every two hours. January 19th: Quiet during the day. Pain in the umbilical region. Normal stool. Pulse and temperature about the same. Coughs occasionally. Moans and twitches in his sleep. Medicines stopped and two grains of quinine muriate every three hours given. Temperature at 9 P.M. $105\frac{1}{2}^{\circ}$, pulse 144. January 20th: Talks in his sleep. Coughs at times. Râles on right side posteriorly. January 21st: Cough loose; many loose râles; temperature and pulse lower. Stop quinine muriate and give three grains of ammonium salicylate every three hours. January 23d: Two yellow stools. Sleeps well, appetite good. The temperature and pulse higher to-day. January 24th: Pain in the umbilical region during the night. Some cough. Râles over both lungs posteriorly. Stop ammonium salicylate and give two grains of quinine muriate every three hours. Pulse and temperature the same. January 26th: Profuse sweating over chest and back during the night. The pulse and temperature lower yesterday and to-day. January 29th: Sleeps well and has no pain. Slight cough at times and sweating about the neck and chest, coming on mostly during the night. The pulse has been weak. Temperature from 102° to 104° . No râles detected anteriorly. Rough breathing both sides posteriorly, with cooing râles. Is constipated. Castor oil, half ounce. Stop quinine and give two grains of ammonium carbonate every three hours. Mustard plaster to the back. January 31st: Very little perspiration during the night. Pains at times in the right thigh. General condition good. Temperature yesterday and to-day 101° to 102° , pulse 101 to 112. February 3d: The boy was very excitable all day. Cried with pain in the right knee and hip. Has pain on pressure in Scarpa's triangle, and there is an induration at that site with

swelling of the superficial glands. The worst pain is over the course of the femoral vein. The parts were enveloped in cotton wool and five grains of sodium salicylate every three hours were ordered. The temperature and pulse were lower during the last three days. February 8th: About the same during the last four days. Swelling of the leg, but not much pain. Temperature from 99° to 100°. February 10th: The left leg became swollen and sensitive to the touch. The pain is worse in Scarpa's triangle. February 11th: Left leg painful during the night. Child slept well after midnight. Enemata given with good results. On account of the intermittent temperature three grains of quinine muriate every three hours were given in the morning. February 12th: Temperature below normal. Swelling in both legs appears to be diminishing; is able to move them without pain. February 15th: Temperature normal; no pain in limbs. February 17th: Swelling and pain in limbs entirely disappeared; slept as well as usual. February 20th: Is sitting up. March 10th: Since the attack of fever the child walks with his legs far apart and cannot run. He also has a shuffling gait. Is bright. March 19th: Walks much better. Can stand on one leg; can grasp with force; the reflexes are good.

When the boy entered the hospital he was seen by several physicians, who pronounced it a case of pseudo-hypertrophic muscular paralysis. The attitude he assumed in rising from a recumbent posture favored this view, but the muscles were not enlarged. The complete recovery after rest and treatment would negative this diagnosis. There could not have been any organic lesion of the cord or membrane, because there were no grave symptoms, and if such had been the case the results would not have been so favorable. The absence of mental symptoms showed that it was not cerebral in origin. It could not have been a case of reflex paraplegia, as there was nothing in the history of the case to give rise to this diagnosis. The bladder and bowels were in a good condition.

I did not regard it as a case of anemic paraplegia, for the weakness was not only below the lumbar region of the cord, but the upper part was also affected. The heart was normal in action. If it had been due to anemia the ergot would have made the trouble worse instead of having such a good effect.

In regard to the diagnosis of typhoid fever, I was not certain for some time that I had this disease to deal with, though I kept the fact in mind. There was absence of delirium, epistaxis, the tongue was not much coated, and there were no well-marked rose spots. The temperature was not a typical one. I was inclined to regard it as a case of broncho-pneumonia due to influenza. The complete history of the case, with the temperature gradually going to subnormal, and the phlebitis, I think makes the diagnosis positive. To this can be added the abdominal pains and the weakness following the attack. It was, however, a mild attack of fever.

DR. E. L. TOMPKINS said he had seen the case, but did not

remember sufficient about it to discuss it intelligently. As to the treatment, ergot was advised and it was reported to him as having been beneficial. He did not understand why strychnia and ergot should be given at the same time, as they produced opposite effects. He asked Dr. Acker whether or not there was any disturbance of the sensory function.

DR. GEORGE N. ACKER said sensation was not altered. There was no pain or tingling nor any muscular spasm. The strychnia was not given until a month after the case entered the hospital, and then in small doses. He did not think that this would interfere with the action of the ergot, but rather act as a tonic.

DR. M. F. CUTHBERT reported

A CASE OF POST-PARTUM HEMORRHAGE.

My selection of the following case for report to the Society this evening was actuated by two reasons: first, because it can be reported briefly; and, second, because it outlines an experience which may occur to any general practitioner. It shows the necessity for having at hand in every case of labor such agents as may be required to meet an emergency, and of having these appliances in such shape that they can be utilized at a moment's notice.

On October 28th last I was sent for to attend Mrs. H., white, age about 35 years. She had borne several children, and had suffered from a severe post-partum hemorrhage after one of these confinements. I found an anterior presentation of the occiput, and, after a normal labor of a few hours, both child and placenta were delivered per vias naturales. As has been and is still my custom, I kept my hand upon the uterus for one hour after the delivery of the afterbirth. I then turned the patient over to the care of the nurse and went into an adjoining room to prepare for my departure. After an absence of a few minutes one of the nurses came to me with the announcement that the patient was having a severe flow. Just what the amount of that first flow was I do not know, but I do know that on re-entering the room I found the patient still bleeding freely and with symptoms of severe blood loss. The surface was blanched, the wrist pulse either absent or barely perceptible, there was sighing respiration, obscure sight, and every symptom indicative of collapse from hemorrhage.

Compression of fundus uteri, intrauterine irrigation with water at a temperature of 120° F., and the local application of ice had no effect in checking the flow of blood. I then saturated several strips of antiseptic gauze in sterilized vinegar and packed cavity of uterus thoroughly. Contraction of uterus immediately occurred and was permanent.

Numerous hypodermatic injections of brandy were given, and nitroglycerin and strychnia were administered in the same manner. The other accessory methods of treating blood loss were followed, and the patient made an uneventful recovery.

I had the good fortune to have this patient in Garfield Hospital, and so had every appliance and all needed assistance at my immediate command. I am positive that if preliminary precautions had not been adopted in this case death would have ensued. The gauze was allowed to remain in the uterus for about thirty-two hours, and its removal was followed by a thorough irrigation of the uterus with hot sterilized water.

DR. J. WESLEY BOVÉE said the case was a peculiar one. Why hemorrhage should occur, without warning or relaxation, an hour after delivery, was unaccountable. Had there been a tear rupturing a blood vessel hemorrhage would have been immediate. Post-partum hemorrhage was a rarity. It will occur in relaxation of the uterus, in fibroids, and in syphilis. As to the treatment, a hypodermatic injection of ergot should be given at once. Hot water was not reliable. It was best to pass one hand into the uterus, and, with the other on the abdomen, stimulate the uterus to contraction. If this failed pack the uterus with gauze. Use large quantities. It may be left in a week, if necessary, provided it is sterile. The great consideration, after controlling the hemorrhage, is to bring the blood back to its normal condition, particularly as to its volume. Nothing is so convenient as the normal salt solution. One or two litres will soon be absorbed. If you inject directly into a vein there is danger of over-distension and consequent heart exhaustion. An amount sufficient to restore the equilibrium only will be absorbed when injected into the tissues. Raise the foot of the bed, apply heat, use strychnia hypodermatically and stimulants by the stomach and by enemata.

DR. A. F. A. KING said that Dr. Cuthbert had omitted to mention putting the child to the breast as a means of promoting uterine contraction. If this and ergot fail, tamponade was undoubtedly to be done, and it was not difficult to do. Almost any stimulating substance or irritating therapeutic agent put into the uterus will cause contraction. Pure whiskey or spirits of turpentine put into the uterus will benefit. Pure chloroform used in this way was a severe remedy. The hypodermatic use of the salt solution was one of the best methods of transfusion. What Dr. Cuthbert had said about being prepared for such an emergency as hemorrhage was right. Hemorrhage occurs once in five hundred cases, and where it has once occurred is liable to occur again, even without the presence of any morbid growth. Dr. Cuthbert was certainly very faithful in holding the uterus for an hour after delivery. The statement was made that where the pulse reached one hundred in a parturient woman, hemorrhage was liable to occur. Why should this be said? He believed that the hemorrhage was already in progress. Many hemorrhages occur that are overlooked; clots remaining in the uterus were a cause.

DR. FRANCIS SMITH NASH asked Dr. King how soft clots in the uterus caused hemorrhage.

DR. KING said the removal of the clots by the introduction

of the hand into the uterus checked the hemorrhage. Hemorrhage was more liable to occur among civilized than among savage women.

DR. J. FOSTER SCOTT said Dr. Nash's question was an easy one to ask but not so easy to answer. You want to remove the clot because it is a foreign body within the uterus and it becomes an unclean thing. Dr. Bovée had advocated the introduction of the whole hand into the uterus; that was not necessary. The hand need not be introduced into the uterus at all, but two fingers placed behind the cervix, and with outside pressure the clots could be squeezed out. One hour was too long to wait for the placenta. He usually got it out immediately by squeezing. He had seen only two or three cases of post-partum hemorrhage. In one case there was a fibroid tumor, another was a forceps case. He believed that savage women did have post-partum hemorrhage.

DR. A. F. A. KING said the use of vinegar inside the uterus was objectionable because it was full of germs.

DR. WILLIAM P. CARR said it was true that vinegar does contain many germs, but it was surgically aseptic. The same might be said of lemon juice. He was glad Dr. Scott had mentioned the early delivery of the placenta. During his first years of practice he was in the habit of waiting, but recently he delivered it in a few minutes after the birth of the child. The only objection against this was that the child did not get quite so much blood. Severe hemorrhages may be rare, but slight ones are common. Clots were often overlooked and very soon decomposed. He saw no necessity to keep the hand on the uterus for an hour, but it was safe to remain near by.

DR. GEORGE N. ACKER asked what effect tying the placental end of the cord had.

DR. J. FOSTER SCOTT said it was of no benefit except for cleanliness.

DR. H. L. E. JOHNSON said he had seen a number of cases of post-partum hemorrhage, but no grave ones. He had used hot water and pressure with benefit. He had also used the galvanic battery with good results. He had never used ice nor vinegar inside the uterus. It should not be overlooked that the uterus sometimes becomes inert by reason of the hemorrhage. The placenta should be removed as soon as possible. He did not tie the placental end of the cord, and thought the placenta was more easily delivered by reason of the diminution of its size by the loss of blood; though he was surprised at the small amount of bleeding from the placental end. He relied upon hot water to control hemorrhage.

DR. I. S. STONE said that any one of us might have a bad case of post-partum hemorrhage, and we should therefore be always prepared. He had had several cases, with which he got along well by the use of ergot and hot water. His last case was one in which there was a nephritis. Soon after delivery she complained of feeling faint, and in a short time was dead. Concealed hemorrhage had occurred. He had seen a number

of cases in the country where the placenta had been retained for over an hour, but had never seen hemorrhage occur as a result.

DR. W. SINCLAIR BOWEN said that in cases where the hand was introduced into the uterus to remove clots sepsis does not occur, but when the hand was introduced to peel off the placenta you were liable to have sepsis.

DR. J. FOSTER SCOTT said the hand was introduced into the uterus much too frequently. It was unpardonable except in the greatest emergency.

DR. W. SINCLAIR BOWEN said he would wait an hour for the expulsion of the placenta rather than introduce his hand into the uterus.

DR. WILLIAM P. CARR said that he and Dr. Scott meant to deliver the placenta immediately with very little manipulation. In cases of miscarriage he had had to insert his finger into the uterus to peel off the placenta. Had seen very severe hemorrhage from retained placenta at five or six months.

DR. JOHN T. WINTER said he had seen bleeding with retained placenta which had been neglected from breakfast time until the afternoon. The hemorrhage ceased on the removal of the placenta. He had used ice with benefit, except in one case in which its use was followed by phlegmasia, but he did not attribute it to the ice as she had had it after a former labor. Failure to tie the placental end of the cord might be fatal to a second child. He had had a case of triplets in which there was only one placenta. He usually delivered the placenta as soon as possible.

DR. J. WESLEY BOVÉE said that what he had said was in the line of severe cases, as detailed by Dr. Cuthbert.

THE PRESIDENT, DR. GEORGE BYRD HARRISON, asked if the introduction of ice into the uterus might not be objectionable by reason of its containing bacteria.

DR. H. L. E. JOHNSON said ice might contain the colon bacillus.

DR. GEORGE N. ACKER said he had used ice in such cases and no bad results followed.

DR. F. S. NASH said that ice did contain bacteria, and the reason no harm resulted in Dr. Acker's case was because the ice *happened* to have no bacteria.

THE PRESIDENT, DR. HARRISON, agreed with Drs. Carr and Scott in the speedy delivery of the placenta. He had introduced his whole hand into the uterus when the hemorrhage was great, and would not wait for gauze if it was not at hand. Turpentine was aseptic and could be used with benefit in these cases.

DR. M. F. CUTHBERT said he did not agree as to the wisdom of the immediate removal of the placenta. After the uterus had been subjected to such severe contraction as was necessary to expel the fetus, he waited for it to recover somewhat. There was no advantage in too speedy delivery. He said it was tedious to hold the uterus for an hour after delivery, but he had

done so for several years in his cases. He said the accoucheur should be prepared with all that might be necessary to safely conduct any labor; but he believed that ninety per cent of general practitioners did not provide themselves with the requisite appliances when going to a labor case. He said, in reply to the inquiry as to why he used narrow strips of gauze, that he had found two-inch strips easy to introduce and entirely effective. He did not find any difficulty in inserting the gauze, and he put in as much as he could. His patient had had serious hemorrhage in former labors. There was no question about the value of kneading the uterus, if you can get it in your hand. As to the material to be used in packing the uterus, of course aseptic gauze was the best, but strips of sheeting, handkerchiefs, or anything should be used in such emergency. The more difficult it was to get a retained placenta the greater the danger of sepsis.

Stated Meeting, April 3d, 1896.

Vice-President SAMUEL S. ADAMS, M.D., *in the Chair.*

DR. J. WESLEY BOVÉE presented a specimen of

PAROVARIAN CYST

with a history of the case, as follows: Mrs. L., white, married, 45 years old, born and always lived in Virginia, was sent to me by Dr. Jett, of that State, last November; she had had seven children, the last twelve years ago, and three abortions, the last of which was seven years ago; labors had been normal, but after the first noticed her abdomen was very large and has continued so to the present; has lived in a malarial section and frequently had chills and fever; about ten years ago began to have very copious discharges of blood from the vagina one or more times every month, and these had continued to the time I first saw her; she had also noticed for some years a tumor in the abdomen that was very movable and occasionally elicited sharp pain. When I saw her she had a very peculiar color, a pale yellow, suspicious of the cachexia of some grave disease, a very feeble pulse, and mucous membranes that were deathly white; her hair was white, and her appearance was more that of a woman of at least 60 years than one of 45. On examination I expected to find advanced carcinoma or some other grave condition; but instead I found a uterus considerably enlarged and hard, and a mass above and to the left that was thought to be a uterine tumor of some sort, probably a myoma. She was sent to Columbia Hospital and, a few days later, curetted. While under the anesthetic for the operation the tumor was found to be exceedingly movable and about the size and shape of a kidney; as it would readily glide up in the direction of the right kidney, the opinion was at once formed that it was prob-

ably a floating kidney. My hands were sterilized and the abdomen was not in that condition, so that an examination was not made to learn the exact nature of the growth. Afterward, however, in attempting to learn more of the condition, she was found to be so very sensitive that, beyond moving the growth all about among the abdominal viscera, nothing further was ascertained concerning it. It, however, was thought to be a floating kidney. She went home without any attempt to replace it, and I did not see her again until she came to my office from Virginia, March 23d last, and expressed the desire to have her trouble entirely removed. She was again sent to the hospital and I prepared to fix the kidney. Under ether I carefully examined her and found the tumor had increased in size considerably, and that it, though still kidney-shaped, contained a great deal of fluid. Both kidneys were found in position and not unusually movable, and the spleen in place; this organ was not as much enlarged as might have been expected from the malarious history. The tumor was as freely movable as at any time previous and showed a preference for the upper part of the abdomen. The abdomen was then opened in the median line and the tumor removed, proving to be a parovarian cyst of the left side having a very long and slender pedicle. The ovary of the opposite side was a cyst about four inches in diameter and was also removed. The parovarian cyst, weighing about eight pounds, was very thin-walled and contained clear fluid; the tissues were very pale, showing again the extremely anemic condition of the patient. She made a good convalescence. That twisting of the pedicle of this tumor did not occur as a result of the length of it and the mobility of the tumor, is quite remarkable.

DR. BOVÉE also presented a specimen of

SUPPURATING FIBROID TUMOR OF THE UTERUS
COMPLICATED BY PHLEGMASIA OF THE LEG,

having a history as follows: Mrs. P., 39 years old, was admitted to Columbia Hospital February 23d last, suffering from severe pain and swelling of the left leg and from a tumor in the abdomen. The condition of the leg was found to be a severe phlegmasia. The tumor, removed April 2d, 1896, by abdominal hysterectomy, extended above the umbilicus and was adherent to the abdominal wall as well as in the pelvis; in the upper part of it was a pus pocket containing about one pint of thick pus, and the right appendage was badly degenerated and adherent. Its macroscopical appearance indicated that both ovary and tube had undergone cystic degeneration and had become adherent to the surrounding tissues. She made a good recovery and the condition of the leg rapidly improved from the time of the operation. He had learned that a physician of this city had recommended curettage for the hemorrhage due to the tumor, and from curiosity he opened the uterus to see what would have been the probability of success

of such treatment; he found the cavity was about six inches deep and very tortuous, that it contained some submucous fibromata and was surrounded by thick fibroid tissue.

DR. WILLIAM MERCER SPRIGG reported a case of

PREGNANCY COMPLICATED WITH INTESTINAL OBSTRUCTION,
FOLLOWED BY ACCIDENTAL HEMORRHAGE AND MISCARRIAGE.

The following case of pregnancy complicated with intestinal obstruction, followed by accidental hemorrhage and miscarriage, is presented to you with the hope that some features of the case may prove of interest. On March 7th, 1895, at 5:30 P.M., I was called to see a Mrs. X., aged 28, white, primipara, who had moved in the country, and from her I obtained the following history: Her last normal menstrual period had occurred on January 16th, 1895, lasting five days. At the time her next period was due, February 14th, a member of her family was taken with a serious and severe illness, causing her much mental worry and distress, and necessitating much loss of rest. On February 24th she began to have slight discharges of blood from the uterus; for four or five days prior to this date she had severe frontal headaches. At this time she observed that the urine was not secreted as freely as usual. Her bowels had not moved since February 22d, so on the 24th, when a physician in the country was called in, she was constipated and threatening a miscarriage. The patient was put to bed, with absolute rest and light diet, and the usual necessary precautions taken against such an accident. An effort was then made to evacuate the bowels, beginning with simple enema, then enemata of castor oil, sweet oil, castor oil and turpentine, etc., all without effect. Purgatives of various kinds were administered by the mouth; some were retained, but most of them were vomited. Nothing, however, produced an evacuation of the bowels. Vomiting continued at intervals. The result of the enemata was only to wash out a small amount of fecal matter in the rectum. The urine continued to decrease in amount. There was a total suppression from the morning of Tuesday, the 5th, to the afternoon of Thursday, February 7th, when less than one ounce was passed. During Tuesday, Wednesday, and Thursday she had several fainting spells, as described by the family, but which were in fact slight uremic convulsions, two occurring on Thursday. Hot fomentations were applied over the region of the kidneys, and hot baths had been given. The patient had perspired freely, the perspiration having a slight odor of urine. During this time there had been no perceptible rise of the temperature. The pulse had become a little rapid, varying from 100 to 120. Up to this time the patient was cheerful and her condition did not seem especially alarming.

Vaginal Examination revealed a slightly patulous cervix, from which there was only a slight oozing of blood; the uterus was a little larger than normal. No other mass could be

detected in the pelvis. Examination by the rectum was attempted, but, owing to its irritated condition, could not be borne. About one drachm of a four per cent solution of cocaine was introduced, and fifteen minutes were allowed to elapse before another effort at rectal examination was made; still she could not stand the pain of such an examination. Ether was then administered, and a piece of absorbent cotton introduced to take up the remains of the cocaine solution. Then by bimanual pressure a mass about the size of a lemon was found well up in the large intestine, above the brim of the pelvis on the left side, and deep back in the abdominal cavity, having very much the feeling of a firm mass of putty. After determining it to be feces, by gentle manipulation and pressure I broke the mass up into several fragments, after which an enema was given high up and allowed to remain. The next morning the bowels moved freely and urine began to be secreted and gradually increased to the normal amount. Examination of urine chemically and microscopically showed at first only a small amount of urea eliminated, which gradually increased to normal. No inflammatory change in the kidney could be determined. When our patient came from under the influence of the anesthetic we were surprised to find her suffering from acute cocaine poisoning. The pulse was very rapid and weak, varying from 140 to 180; great cerebral excitement; talking with great rapidity, and at first incoherently, screaming and complaining in her delirium of pain in the left leg and hip and severe tingling pain in both legs, as if they were asleep; rolling of her head from side to side. Morphia and strychnia were administered hypodermatically. In about five hours the distressing symptoms had subsided. She continued, however, very nervous until after her bowels had moved the next morning; small doses of Rochelle salt had been given at regular intervals during the night. From this time on she had no further trouble with intestines or kidneys. She continued to have a slight bloody discharge from the uterus until April 1st, when it stopped. She then seemed to be perfectly well. On April 16th she had a discharge of blood for three days, which she supposed to be her normal menstrual flow. She was therefore not aware of the fact that pregnancy existed. On May 29th she was seized with a sudden, severe pain in her uterus, followed by a sudden spurt of about two ounces of blood. Vaginal examination showed uterus enlarged, about the size of a large orange. She was put to bed, head lowered by elevating the foot of the bed, and given light diet, codeia to relieve the pain, and absolute rest required. I then recognized that I had a case of accidental hemorrhage due to a partial separation of the placenta. My efforts were now directed to protecting the patient, with the hope of bringing her through to a full-term labor. As the middle of June was the time that her menstrual periods usually occurred, I had her go to bed for several days as a precautionary measure. June 19th she felt life positively for the first time. Even then the slight movement of the child caused her

considerable pain. The patient, however, was allowed to sit up and move about with care until June 29th, when she was put regularly to bed, for the reason that uterine pain continued to increase with the increase in vigor of the fetus. The pain, however, continued more or less constantly until July 7th, when regular labor pains set in, and on the following morning she was delivered of a five and a half months child. The hemorrhage was considerably more than normal, but not dangerous. On the third day after confinement it was necessary to give intrauterine douches, swab out the cavity with peroxide of hydrogen, and pack with iodoform gauze. This was repeated daily for several days, when the temperature became normal and involution of the uterus continued without interruption. During each intrauterine douche small pieces of placental tissue were washed out. The placenta was found to have in its margin an area of degenerated tissue from one and a half to two centimetres wide by seven centimetres in length. It was from this area that the hemorrhage took place. The points that present themselves to me as of special interest are:

1. The obstruction of the large intestine as a cause of the suppression of urine.

2. The suppression of urine and a consequent retention in the circulation of the urea, as a cause of placental separation. That fecal obstruction in any part of the intestinal tract rarely terminates fatally is well shown in an analysis of 1,839 fatal cases of intestinal obstruction analyzed by Durham and Jacobson, in which fecal impaction caused death in but 78 instances, and most of these were due to impaction in the small intestine. More rarely death results from impaction in the large bowel. Diminution or suppression of urine has long been recognized as a symptom of intestinal obstruction, usually, however, the obstruction occurring in the small intestine. "The late Dr. Barlow considered that it pointed to a site of obstruction high up in the jejunum, the area for the absorption of fluids being thus much diminished." Others have urged that it was due to vomiting, and still others argued that "this symptom is merely one of the phenomena of collapse." We know that diminution or even suppression of urine does occur even in obstruction of the large bowel, when there is no collapse and a minimum amount of vomiting. This condition of suppression in intestinal obstruction will in time, I think, be satisfactorily explained through the irritation of the sympathetic nerve terminals in the intestines, producing an anemia of the kidney by its reflex action. This vasomotor relationship between the intestine and the kidney is now readily determined. The small intestines are supplied by nerve fibres from the solar plexus. The splanchnic nerves, which are directly connected with the reflex cerebro-spinal centres, also send their fibres to the solar plexus. By direct experiment stimulation of the splanchnic nerve causes a stoppage of the muscular movement of the intestines, as well as contraction of the blood vessels, producing an anemia of the intestine. The solar plexus also receives nerve

fibres from the right and left pneumogastric. Barnard found that stimulation of the pneumogastric produced vasomotor dilatation, besides stimulating muscular activity; stimulation of the splanchnic, vasomotor contraction and paralysis of movement. The kidney is supplied by nerves from the renal plexus on each side, and the renal plexus is derived from the solar plexus and especially from the semilunar ganglia. These ganglia are connected with the vasomotor centres in the cerebro-spinal system, thus making the renal plexus of vasomotor nerve fibres indirectly connected with the same system of nerve fibres as supply the intestines.

Among the causes of accidental hemorrhage, other than traumatism and the various forms of fevers, may be mentioned fatty degeneration of the placenta (Coe); nephritis as a cause of placental separation (Winter); and endometritis or other diseases of the uterus.

It seems to me that the retention of a large amount of urea in the circulation, as in the case reported, might so interfere with the nutrition of the new placental tissue as to render the placenta much more liable to separation during a convulsive seizure. There are many cases, however, in which you can find no direct cause for the hemorrhage.

The maternal mortality is very great when the hemorrhage is concealed, less when the hemorrhage is external.

The various methods of treating accidental hemorrhage I will not attempt to discuss, as it would be out of place in a paper of this character, each case, however, requiring to be treated mainly upon its own merits.

DR. THOMAS C. SMITH said this was another addition to the long list of the complications of pregnancy. He doubted the propriety of calling fecal impaction an intestinal obstruction. If the doctor believed the kidneys were affected, why did he use ether instead of chloroform? Dr. Smith said there was nothing in physiology that could be put down as a fact, so many apparently settled questions were now being reopened, and it was even questioned as to whether water was absorbed from the stomach. When obstruction causes suppression of urine the question arises, Does the urea in the blood cause the convulsions? He was not satisfied that the matter was settled. Toxins absorbed from the intestines were probably the cause. He was not satisfied with Dr. Sprigg's statement as to the vasomotor influence in the matter. The treatment was all right, but his physiological conclusions were disputed by some recent writers.

DR. J. WESLEY BOVÉE said Dr. Sprigg was justified in giving ether in order to make a thorough examination; he, however, preferred chloroform if there was any renal involvement. When the uterus is emptied and any sepsis is going on it is customary to pack the uterus. But he did not believe in that procedure, except that when there was a flexure a piece of gauze might be put in for drainage.

DR. THOMAS C. SMITH said if only a small portion of pla-

centa was separated the patient might be tided along, but if the separation was considerable it was best to empty the uterus.

DR. FRANCIS SMITH NASH said that Dr. Bovée had been making some experiments as to the effect of anesthetics upon the kidneys, and asked him to state the result of his observations.

DR. M. F. CUTHBERT said he did not agree with Dr. Bovée as to the inutility of packing the uterus. In some of these cases drainage cannot be secured without it.

DR. THOMAS J. KELLEY, JR., said if you put gauze in the uterus and allow it to remain five or six hours, you then have a handle with which to remove all the débris better than with curette or by irrigation.

DR. J. WESLEY BOVÉE said he had examined seventy-five or eighty cases to determine the influence of anesthetics upon the kidneys. In all of the cases the urine was examined before the administration of the anesthetic. Albumin was present in nearly every case after the inhalation of ether, and in but few after the use of chloroform. Gauze will not take everything out of the uterus. It would be well to pack Douglas' cul-de sac to correct any retroflexion and promote drainage in that way. In septic conditions he would not rely upon gauze, but would curette.

DR. A. F. A. KING said if there was no flexion the uterine os would remain sufficiently patulous for drainage. He objected to the use of gauze if there was no flexion.

DR. E. L. TOMPKINS said he kept notes of many cases in which ether was used for anesthesia during a year and a half while he was at the New York Post-Graduate School. The effect of ether upon the urine depended upon the manner in which it was given. If the patient breathed much carbonic acid gas the amount of albumin was increased.

DR. WILLIAM MERCER SPRIGG said Dr. Smith was wrong in saying that nothing was known as a physiological fact. Many things were known, but much yet remained to be learned. It had been demonstrated to ocular inspection that the mucous membrane of the stomach did absorb. The only evidence of kidney complication in his case was the suppression of urine. The fecal mass was not large. Stimulation of the organs was indirect through the sympathetic. The introduction of gauze, as suggested by Dr. Kelley, will take out small particles that the curette will not remove, but the gauze will not act as a drain. It should be allowed to remain in the uterus only a few hours.

DR. FRANCIS SMITH NASH reported a case of

SEVERE NAUSEA AND PTYALISM AS A POST-PARTUM REFLEX.

Mary S., aged 29; a large, well-formed mulatto woman, the mother of three children. During her pregnancies she had some ordinary morning sickness, but this ran the usual course. This nausea was most marked with the third child. With the

fourth child she had some pyalism and morning sickness, coming on in the second month and lasting about six weeks, when they passed off and her digestive apparatus was in excellent condition until the labor began. During the last month of pregnancy her ankles were slightly swollen, which was apparently due to pressure, since the swelling increased as the pregnancy advanced. Bowels were regular and appetite good. The labor began Friday, March 13th, at 6:15 P.M., and lasted until Saturday morning at 3, having nothing unusual to mark it except that with the commencement of the labor the nausea and pyalism set in and continued until Wednesday morning, March 18th. She had no symptoms of nephritis or sepsis. The urine was thick with urates, showing only a trace of albumin, which was assigned to the presence of a small quantity of the lochia in it.

During and after labor the pyalism, nausea, and vomiting were excessive. After completion of the labor she got one drachm of fluid extract of ergot, which she promptly vomited. On the second day after labor she got a purgative, although her bowels had moved. Lime water and creosote, bromides, counter-irritation over the stomach with mustard, constituted the rest of the treatment. I believe this represents a very common class of cases, but I cannot find a single reported case of the kind. The condition is often, I think, overlooked, because they quickly recover after the uterus undergoes partial involution.

DR. J. FOSTER SCOTT said he failed to see anything unusual in the case reported by Dr. Nash. Such cases were of frequent occurrence. He detailed a case that he had seen, the patient having, before coming under his observation, taken all sorts of drugs without benefit. He discontinued all medication and fed the patient by the rectum, and gave plenty of hot water every two hours by the stomach, with most satisfactory results.

DR. FRANCIS SMITH NASH said he believed such cases must be common, but he found none on record, hence he thought it worthy of being brought before the Society.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Meeting of May 6th, 1896.

*The President, F. H. CHAMPNEYS, M.D., F.R.C.P., in the
Chair.*

ADJOURNED DISCUSSION ON DECIDUOMA MALIGNUM.

DR. KANTHACK, at the request of the President, resumed the discussion. In all essential points he agreed with Dr. Eden's criticism. It was necessary to approach a question like

this from the point of view, not of the specialist, but of the general pathologist. It was evident that the "deciduoma" is a malignant tumor—all are agreed upon that point; but some traced its origin to decidual cells, others to syncytial masses, and at least one other authority even to the connective tissue of the chorionic villi. On analyzing the published accounts it would be found that, according to their nature, these deciduomata were either sarcomata, in which case they were said to have developed from the decidual cells, or carcinomata owing their origin to the syncytium. It was evident, then, that "deciduoma," apart from its hybrid nature, was a bad term, because it was not inclusive. He wished to suggest two other names to cover the carcinomata, viz., "syncytioma" or "trophoblastoma." He himself firmly believed that the deciduoma was a typical sarcoma characterized by features common to many forms of sarcoma. It was certain that most of the deciduomata described or shown were sarcomata. He agreed with Dr. Eden that Dr. Whitridge Williams' specimen was an undoubted sarcoma and certainly not a carcinoma. Prof. Spencer had described his case as a deciduoma consisting chiefly of syncytial masses, and he had laid great stress on the growth in the lungs. The latter was secondary to the uterine growth and certainly a sarcoma, and not even an extraordinary sarcoma. The uterine growths were curious, but presented nothing incompatible with sarcomata met with in other regions of the body. Mr. Rutherford Morison's case no one could consider anything else than a sarcoma containing in certain situations large plasmodial cells (syncytial masses). Dr. Hebb's specimen also was acknowledged to be a sarcoma, the secondary growths in the lungs showing so-called syncytial masses. The plasmodial syncytial masses are said to be characterized by these three points: (a) absence of cell outline, (b) deeply staining nuclei, (c) vacuolation. Now, he (Dr. Kanthack) maintained that similar plasmodial masses, formed by cell fusion, occurred in many rapidly growing sarcomata, and that it was illegitimate to argue from morphological analogy that these plasmodial masses are derived from syncytium. Some writers had described their specimens as sarcoma developed from decidual cells. The latter were connective-tissue cells changed under the unknown proliferative stimulus of pregnancy. As Dr. Eden had well said, the decidual cell was not characteristic of pregnancy. It was necessary, before calling a large-celled sarcoma a deciduoma, that (1) pregnancy must be rigorously proved to have existed (this condition has remained unfulfilled in many cases); (2) the pregnancy must have existed before the sarcoma appeared.

DR. CLARENCE WEBSTER (Edinburgh), having expressed his pleasure at being able to attend the meeting, said that as he had seen no specimens of the so-called deciduoma malignum save those shown by Mr. Rutherford Morison and Dr. Spencer, he would limit his remarks to certain points which he had noticed in his perusal of various published cases, referring in particular to some embryological considerations in which he

was particularly interested. Like many others in this country, he had been much surprised at the appearance of this new term. That the disease was of a malignant nature seemed evident. Apart from the novelty of the name, he did not think there was anything in the clinical symptoms which had not been before recognized in cases of primary malignant disease of the uterus. Nor was the connection of malignancy with pregnancy or the puerperium anything unknown. The startling element in the new disease seemed to him to be in the pathology and etiology of the condition, or rather in the discordant views expressed by writers. Thus the following statements were made as to the nature of the new growth—namely, that it was sarcomatous, that it was carcinomatous, that it was made up of both sarcomatous and carcinomatous tissue. As to the tissue of origin of the new growth, the following were mentioned: (1) maternal—epithelial elements of mucosa, connective-tissue elements of mucosa, muscle of uterine wall; (2) fetal—epiblastic elements of villi, mesoblastic elements of villi, combined epiblastic and mesoblastic elements of villi; (3) maternal and fetal elements combined. Taking together all the cases which had been published, from the microscopical appearances described three distinct types were to be made out: (1) in some the tumor and metastases were composed of cells, sarcomatous or carcinomatous in shape; (2) others were composed of cells as in No. 1, along with masses of plasmodial tissue like the syncytium found normally in connection with the placenta; (3) others were made up of the above constituents with the addition of villous structures exactly resembling the villi of the placenta, as they were found normally or in the condition known as vesicular mole. The nature of the syncytium of pregnancy had been long discussed. Some stated it to be formed from the epithelium of the uterine mucosa; others that it was a fetal structure, epiblastic in nature, the outermost layer, in fact, of the early ovum. The fetal origin could not now be denied. It had been clearly pointed out in different mammals, especially by Van Beneden and Hubrecht. The maternal origin of the syncytium was advocated in the days when there was no such careful technique in microtomy as was found at the present day. If it could be established that the syncytium found in connection with these malignant growths was the same as that of pregnancy, and if it also were found in metastatic growths, it must be admitted that, whatever were the origin of the other cells in the tumor, the syncytial part was due to the malignant development of fetal epiblast, parasitic on the uterine mucosa, resulting from the product of conception. However, another question had to be settled before such a conclusion could be formed, viz., to what extent does plasmodial formation take place in connection with the growth of sarcomata entirely unconnected with the influence of pregnancy? Dr. Kanthack stated that this change was fairly common in sarcomata of different tissues of the body. This was an important point to establish in order to discredit a belief in the development of these tumors in the uterus

from the syncytium of pregnancy. One observer only, Gottschalk, had stated that the fetal connective tissue was concerned in the growths under discussion. The question at issue appeared to be: Can fetal epiblast, call it syncytium or what you will, form new growths in the uterus and produce metastatic growths elsewhere? At present there was no proof that this could occur. When it was found the new "chorionic carcinoma" would be welcomed, but not before. When it was recognized it certainly would not be under the deceptive and unnecessary misnomer, "deciduoma malignum."

MR. BLAND SUTTON was of opinion that a deciduoma is a sarcoma arising in decidual tissue. Concerning other varieties supposed to originate in chorionic villi he preferred to maintain an attitude of active scepticism. Their occurrence was possible, but their existence had not as yet been satisfactorily demonstrated.

MR. ALBAN DORAN maintained that Mr. Rutherford Morrison's case was clearly an instance of the disease which the Germans term "deciduoma malignum," whatever the correct interpretation of that malady might be. Certain authorities seemed assured that there was a true deciduoma malignum, but they had not calculated the chance of coincidence of simple sarcoma which occurred in young women with gestation. Yet Apfelstedt and Aschoff recently found vesicular mole tissue forming a secondary deposit in the labium three months after the expulsion of the mole from the uterus. Decidual tissue was hardly more complicated; its diffusion by metastasis was therefore conceivable. There had, on the other hand, been too much eagerness to make out decidual tissue in primary and secondary deposits. Thus, in the *Cent. f. Gyn.* for May 2d last two cases of deciduoma were reported. The patients were of the ages of 38 and 42, respectively. Epithelioma was far more probable in both instances. The first case was described as epithelial cancer over twenty years ago, so that to reclassify it as a deciduoma was hardly scientific. In the second the uterus was removed nearly two years after the expulsion of a vesicular mole, and there were no secondary deposits. The Society could not admit that the existence of deciduoma malignum, as distinct from sarcoma stimulated by gestation, had been proved.

DR. SPENCER thought that whether the disease belonged to the sarcomata or the carcinomata was a matter of slight importance; so also was the name by which it was designated. The really important question was whether we had to deal with an ordinary malignant growth in the uterus, or whether we had to do with a malignant growth which developed from the products of conception (fetal or maternal). He thought all the facts were in favor of this latter view.

DR. EDEN said he was very glad to find that Drs. Kanthack and Webster shared the doubt he had expressed as to the identity of the plasmodial masses found in cases of deciduoma malignum with the placental syncytium. The question of

identity depended upon one point—viz., whether the placental syncytium possessed any specific characters by which it could be distinguished from masses of nucleated protoplasm derived from different sources. He believed that it did not possess any such characters, and considered, therefore, that the plasmodial masses found in these growths could not be identified as syncytium merely from their microscopical appearances. If experience should prove that malignant growths consisting of proliferating placental villi may arise in the uterus and spread by the ordinary channels of metastasis, such tumors would form a distinct addition to our pathology. It was obvious, however, that the term deciduoma malignum was quite an unsuitable designation for new growths composed of placental villi.

In closing the discussion the PRESIDENT did not doubt that the debate, which had brought much special experience tempered with general knowledge and a logical spirit to bear upon the subject, would prove useful. In reading the cases which had been reported he often wondered, as in the case of any other "new" disease, what such cases had been called before. He supposed, but was not sure, that most of them would have been regarded as forms of cancer or sarcoma. The conclusion of the debate seemed to be that the question is far from being settled and that it is yet too soon to add a new disease to the list.

Meeting of June 3d, 1896.

The President, F. H. CHAMPNEYS, M.D., F.R.C.P., in the Chair.

MR. ALBAN DORAN, F.R.C.S., reported

CASES OF FIBROMA OF THE OVARY AND OVARIAN LIGAMENT
REMOVED BY OPERATION; WITH A SERIES OF AFTER-
HISTORIES OF CASES REPORTED IN THE TRANS-
ACTIONS SINCE 1879.

Fibroma of the Ovary.—Two cases in the author's operative practice are first recorded: one typical and recently in hand, whilst in the second the tumor was removed in 1889, and, though it seemed to present some of the microscopic characters of sarcoma, no recurrence has occurred.

Eleven cases are tabulated; they include the above, whilst the remainder were reported, when recent, in the Society's Transactions since 1879, the author adding after-histories. This is done on account of the question of recurrence, since in four (Nos. 1, 8, 9, and 10), at least, malignancy was suspected, yet the after-histories proved innocence.

Most of the eleven bore the naked-eye characters of a fibroma. The suspicious microscopic elements in Nos. 1, 8, 9, and 10 were apparently connective-tissue cells between bundles of white fibre. Myomata of the ovary are not considered in this communication. In only one case (No. 1) was the disease bilateral.

I.—FIBROMA OF THE OVARY.

Operator and reference.	Age, married or single.	Symptoms and duration before operation.	Menstrual history.	Operation.	Characters of the tumor.	After-history.
1 Cullingworth, Trans. Obst. Soc., vol. xxi., 1879, pp. 578, 514.	38, W.	Swelling over six years; small nodular tumors in pelvis; last three months ascites, double pleurisy, with effusion into left pleura.	Regular till 9 months before death; then slight metrorrhagia 6 months; amenorrhoea last three months.	None. Death from the pleurisy.	Fibroma according to Dreschfeld (see text).	
2 Sir J. Williams, Trans. Obst. Soc., vol. xxv., 1887, p. 35, and private communication.	18, S.	Painless, hard, movable swelling about two years; rapid increase last six weeks; reached to ensiform cartilage; uterus two and a half inches, freely movable.	Did not appear till 17; then regular, but missed a period before operation. Regular, scanty, painful.	Ovariectomy; pedicle thin and long; no note of opposite ovary; no ascites.	"A calcifying fibroma of the ovary"; 8 inches longest diameter; firm to touch, soft at certain points.	Was in good health two years later.
3 Id., unpublished case, April, 1888.	27, S.	Eleven months swelling, pain, dysuria; hard tumor rising above umbilicus; uterus three and a half inches.	Regular, scanty, painful.	Ovariectomy; twisted pedicle; adhesions to parietes, cum, and colon; no ascitic fluid.	A fibroma, lobulated and nodulated; hemorrhagic area inside; ovarian ligament ran into a kind of hilum.	In excellent health 19 years after the operation.
4 C. H. Carter, Trans. Obst. Soc., vol. xxix., 1887, p. 190, and private communication.	20, S.	Swelling noted about six months; last six weeks abdominal girth increased one inch.	Amenorrhoea 3 months, then regular; health improving.	Ovariectomy, right ovary; broad pedicle, wide omental adhesion.	Round, smooth, very hard fibromyoma, ten and three-quarter pounds in weight.	Alive and well eight years after operation.
5 Sir J. Williams, Trans. Obst. Soc., vol. xxix., 1887, pp. 247, 518, and private communication.	? (A young woman.)	?	?	Ovariectomy; opposite ovary healthy.	A pure, or almost pure, fibroma, seven pounds seven ounces; partly cystic; pedicle twisted and thrombosed.	Well about 2 years afterwards.
6 J. Knowsley Thornton, reported by Doran, Trans. Obst. Soc., vol. xxx., 1888, p. 426, and private notes.	20, married at 16.	Abdomen gradually increased in size for several months.	Regular.	Ovariectomy; tumor on left side; right ovary healthy.	A pure fibroma. See microscopical drawing, pl. III, fig. 5, loc. cit.	Well 4 years later bore a child. See loc. cit., p. 426, footnote.
7 Doran, Trans. Obst. Soc., vol. xxxi., 1889, p. 126. Full report in present article.	52, M.	Eighteen months lump in right iliac fossa; slow growth; a very hard mass formed in hypogastrium; uterus in three inches, quite separate; no ascites noted.	Ceased five years; never copious; sanguis discharge six weeks before operation. Regular, no pain.	Ovariectomy; pedicle broad, chiefly made up of ovarian ligament (right); left ovary atrophied, not removed; several ounces clear red serum in pelvis; no adhesion.	A very hard, smooth tumor, three pounds; a fibroma with broken-down tissue in its interior. See text.	Quite well over 6½ years after operation.
8 M. Handfield Jones, <i>Ibid.</i> , (see 7), and private communication.	31, one child 14 months old.	Eighteen months lump in right iliac region; reached above umbilical level; strong hardness; no ascites noted.	Regular, no pain.	Ovariectomy; good pedicle; no adhesion (right side); no cavity of clear fluid in peritoneal cavity.	Stony-hard tumor, "principally fibrous"; serous membrane unruptured. See text.	"Alive and well three years after operation."

II.—FIBROMA OF THE OVARIAN LIGAMENT.

Operator and reference.	Age, married or single.	Symptoms and duration before operation.	Menstrual history.	Operation.	Characters of the tumor.	After-history.
0. Dakin, Trans. Obst. Soc., vol. xxxvi., p. 318, and private communication.	38, M.	One year movable lump; abdomen increasing nine months; tumor felt like a cyst; no ascites.	Not affected.	Ovariectomy; right ovary removed; left normal, not removed; omental adhesions; "little or no excess of peritoneal fluid."	Solid tumor, nine pounds six ounces; "mixed spindle and round-celled sarcoma."	No sign of recurrence 18 months after-ward.
10. Cullingworth, Trans. Obst. Soc., vol. xxxvi., 1884, p. 314 (operation April, 1885), and private communication.	19, S.	Tumor discovered during a vaginal examination for menorrhagia.	Menorrhagia.	Ovariectomy; solid right ovarian tumor, no adhesions; opposite ovary healthy, removed (see original report).	Pronounced, "after repeated examinations, to be an undoubted example of a spindle-celled sarcoma."	No sign of recurrence 4½ years after-ward.
11. Doran, Present article.	24, S.	Noticed five months (but acute dysuria one year, see text); very hard irregular mass in hypogastrium; uterus 3½, quite separate; ascites not noted.	Regular, rather profuse.	Ovariectomy; pedicle (right side) twisted, ovarian ligament hypertrophied, no adhesions; opposite ovary healthy; pint of clear red serum in pelvis.	Irregular hard tumor, weight three pounds five ounces; one cyst on surface.	Well, two months later.
1. Doran, Brit. Med. Jour., vol. 1, 1888, p. 1287 (noted Trans. Obst. Soc., vol. xxxi., 1889, p. 300).	32, W.	Abdomen swelling two years; latterly rapid increase; no sign of ascites; uterus three and a half inches, pushed low down in pelvis (it contained no fibroids).	Regular, moderate show.	Ovariectomy; omental and parietal adhesions; tumor sprang from hypertrophied right ovarian ligament; left appendages also removed; no free fluid.	A soft, edematous fibroma, over sixteen pounds in weight; pseudo-cysts in interior; right ovary and tube normal; left ovary atrophied, contained small cysts.	Quite well six and a half years later.
2. Doléris, Bulletins et Mémoires de l'Académie de Médecine, Paris, 1879, p. 21, and private communication, Lond., February, 1880.	27, M. Two pregnancies.	Detected one month before operation, when hypogastric pains had set in. (Two years before, careful examination after labor, no tumor.) Very fat subject; tumor hard to define.	Very regular, one day only; menorrhagia during lactation two years before.	enovel of tumor only, by ligature of its pedicle, which sprang from ovarian ligament; uterus free from fibroids; ovary and tube healthy; reddish ascitic fluid.	A fibromyoma as big as an orange; cystic cavities; pedicle two inches long before section, as thick as little finger.	Quite well over six years later.
3. Parreux, Ann. Journ. Obstet., vol. xxxii., 1886, p. 100.	31, M. child, Five children, and pregnant at operation.	Detected two and a half years before operation, during fifth pregnancy. At date of operation a <i>stomach</i> tumor, about size of child's head, lay to left of pregnant uterus.	Quite regular.	Removal of tumor; ovary and tube not involved.	A hard tumor five pounds in weight. "Microscopical examination shows the specimen to be a sarcoma" (but see text).	Died four days after operation, of peritonitis.

One (No. 4) exceeded ten pounds in weight ; but older writers, in days when operation was deferred long after diagnosis, recorded heavier fibromata.

In two the patient was under 20 ; in four under 25 ; in one no age was reported, but the patient was young. In three she was between 27 and 36 ; and in one (No. 7), under the author's care, she was 52. Thus the disease is relatively frequent in youth, yet may develop after the menopause.

The tumor was observed in most cases about eighteen months before operation. In the only instance (No. 1) where there was no operation the patient died of double pleurisy with ascites six years after the tumor was first detected. In six (Nos. 1, 2, 3, 7, 8, and 11) extreme hardness was noted on clinical examination ; none seem to have been actually soft. Calcification was observed in one case (No. 2). Dysuria was a prominent symptom in two cases (Nos. 3 and 11) ; indeed, in one of them (No. 11) an acute attack occurred a year before the tumor was detected. In more than half the cases the catamenia were regular. In three, at least (Nos. 3, 7, and 11), the uterine cavity was abnormally long, though no uterine myoma existed.

In ten out of the eleven the tumor was removed by ovariectomy. In none was the operation very difficult, and all recovered. In seven no adhesions were found. The pedicle was always anatomically normal and long enough to be secured with ease. In two cases (Nos. 3 and 11) it was twisted, without causing the pain and other symptoms so prominent in twisted dermoids. In the eleven cases free fluid was found in the peritoneum in at least five (Nos. 1, 7, 8, 9, and 11). The author discusses this question at length.

The after-histories of the ten operation cases are, without exception, favorable. Eight remained free from recurrence two to twelve years after the operation. The two which remain recovered rapidly, but are quite recent cases.

Though always hard and heavy, fibroma of the ovary causes less pain than dermoid or any other solid or semi-solid ovarian tumor. A markedly hard and painless tumor, moving separately from the uterus, in a very young woman, is most probably an ovarian fibroma. Pedunculated subperitoneal uterine myoma is practically unknown in early womanhood, whilst dermoids, very common in youth, are seldom uniformly hard ; and the hardest usually set up the most pain. Sarcoma of the ovary, relatively frequent in girlhood, is nearly always soft and associated with amenorrhea and cachexia. Ovariectomy is the only treatment for fibroma of the ovary. The abdominal wound bleeds very freely, as in cases of uterine myoma ; it must not be made too short, else it may be badly bruised during extraction of the hard tumor.

Fibroma of the Ovarian Ligament.—Three authentic cases of this rare disease are tabulated. Two (Nos. 1 and 2) are certainly fibromata with cystic cavities ; one (No. 3) is said to be sarcoma, but its extreme hardness and slow growth do not favor that theory. This tumor grows to a large size, the

author's (No. 1) weighing over sixteen pounds. In all three the disease was unilateral and the adjacent tube and ovary free from the new growth. When large the tumor may become edematous and soft. Ascites and adhesions do not readily develop. In all three cases the patient was in the prime of sexual life. Menstruation was regular in every case. Diagnosis is hardly possible. The uterus may be enlarged, yet free from fibroids.

All three tumors were removed. In two cases (Nos. 2 and 3) the tumor alone was taken away, the ovary and tube being saved; but one (No. 3) died on the fourth day. There seems to be no tendency to recurrence, the author's case (No. 1) and M. Doléris' (No. 2) being both still alive and healthy six years and a half after the operation.

DR. MACNAUGHTON JONES related a case of his own of fibroma of the ovary occurring in a young girl of 22. From its painlessness, mobility, and feeling of density it gave the idea of a pedunculated myoma. The tumor was discovered accidentally, as no complaint had been made of any pelvic symptoms. The tumor was removed, and found to be of the size of an orange and encapsuled. The patient made a good recovery.

After some remarks by DR. HANDFIELD-JONES, DR. PETER HORROCKS pointed out the present unsatisfactory state of our knowledge of the histological differences between fibromata, sarcomata, and allied conditions. The difficulty was shown in a case of his own exhibited at this Society. The tumor was shown as a case of fibroma of the ovary, and the microscopical appearances of sections seemed to several pathologists to indicate its fibromatous nature, and yet Mr. Bland Sutton on looking at the sections pronounced them to be typical of a sarcoma. Fibromata were collections of connective tissue, and sarcomata were essentially connective-tissue tumors, and, judging by fibromata under the skin and elsewhere, it was highly probable that they might remain pure fibromata in their histology and innocent in their action for years and then become sarcomatous and malignant.

After remarks from DRs. CULLINGWORTH and SPENCER, the PRESIDENT asked whether Mr. Doran considered survival to prove non-malignancy, and, if so, whether he would make this statement of both forms of malignant disease, or whether he referred only to sarcoma. If so, what he would say about cases, *e.g.*, of cancer of the uterus in which no recurrence had taken place.

In reply, MR. ALBAN DORAN had listened with interest to the cases related in the discussion. Not many years ago too much stress used to be laid on the term spindle-celled, so that any normal cellular structures with elongated nuclei were considered identical with the cells which made up the true and very malignant sarcoma of bones and fasciæ. We must mistrust old reports of "small spindle-celled sarcoma of the ovary." When a tumor was diagnosed as an ovarian fibroma it was the duty of

the surgeon to remove it. If on microscopic examination it appeared to possess malignant characters, and if the patient survived the operation for many years, he must not conclude that he had triumphed over malignancy.

ANTERIOR COLPOTOMY.

A paper on this subject was read by DR. JOHN PHILLIPS. The author considered that to Dührssen belongs the credit of calling attention to this operation. Any one who has performed either vaginal hysterectomy or fixation cannot but be struck with the ease with which the pelvic organs can be examined through the opening in the anterior vaginal cul-de-sac. Full details of the operation as carried out by Dührssen, Mackenrodt, and the author are given, with short histories of four cases, in the first of which vaginal fixation only was originally intended. The author considered the advantages of this method to be: (1) no hernia or cicatrix, and less liability of the formation of adhesions with the omentum and intestines; (2) greater simplicity of operation, greater rapidity of performance; (3) post-operation sickness is much less and the convalescence shorter; (4) no bleeding of any consequence, except occasionally from the vaginal flaps; (5) no drainage tube required. The disadvantages, on the other hand, are: (1) much greater difficulty in making the vagina antiseptic, especially if there be any fetid uterine discharge; (2) greater risk of wounding the bladder, ureters, and coils of intestine; (3) if the swelling is adherent in the left and posterior quarter of the pelvis the rectum may be lacerated. A list of cases in which this operation seemed indicated was given. With regard to recommending the operation, the author wished it to be borne in mind, firstly, that the peritoneal cavity is opened, with its possibly grave after-results; and, secondly, that removal of the ovaries and tube, whether by vagina or abdomen, must always be looked upon as a mutilation, and hence the same care and anxious thought should be exercised as before resorting to abdominal section.

DR. AMAND ROUTH was glad that the author had brought forward this important subject. There was little to criticise in his remarks, but much to commend, especially in the warning added at the end of the paper. He thought that the two difficulties of the operation were the separation of the bladder and the turning-out of the uterus. As regards the former, he thought that a combined transverse and longitudinal vaginal incision gave the best result. It was not always easy to turn out the uterus, and he had found that the best way was to antevert it per rectum or by a uterine repositor fitted with a rack and screw.

DR. HORROCKS and MR. MALCOLM then made remarks, and the PRESIDENT closed the discussion by criticising the indications for the operation. He considered that in small intraligamentous and parovarian cysts, where these require much enucleation,

operation is probably safer from below. He considered, also, that abdominal section as an exploratory measure was very valuable from a diagnostic point of view, to be followed up by operation per vaginam. With regard to Mr. Malcolm's remarks on the greater safety of abdominal than vaginal section, it must be remembered that, as far as sepsis is concerned, the latter is one of the safest operations in gynecology, as is shown by the results of vaginal hysterectomy.

A CASE OF IMPACTED OVARIAN DERMOID CYST WHICH WAS REMOVED BY ABDOMINAL SECTION DURING THE NINTH MONTH OF PREGNANCY.

MR. THOMAS H. MORSE (Norwich) related this case. A multipara, æt. 30, whose last labor had been quite normal two years before, was again pregnant nearly nine months when Mr. C. E. Muriel, under whose care she was, discovered that the pelvis was almost completely blocked with a semi-solid tumor, and that the os uteri could only with great difficulty be reached with the index finger passed up close behind the pubes. Abdominal section was performed, and the whole tumor, which arose from the right ovary, was lifted out. The pedicle was three inches long and was twisted upon itself one whole turn from left to right; this was ligatured and the ovary cut away. The uterus, which had been outside the abdomen for about five minutes, had been kept carefully wrapped up in warm cloths and was replaced with some difficulty. The wound was united with twenty-one sutures, the whole operation lasting twenty-five minutes. The tumor proved to be a dermoid containing hair and sebaceous matter with some blood and pus. The walls looked gangrenous. The patient made an easy recovery. A normal labor followed twenty five days after, forceps being applied to prevent unnecessary strain on the recent cicatrix. The child was living and of full size.

Meeting of July 1st, 1896.

The President, F. H. CHAMPNEYS, M.D., F.R.C.P., in the Chair.

THE ETIOLOGY OF GONORRHEA.

DR. McCANN.—In this paper previous observations had been examined and an attempt made to throw additional light on this complex question. As a true understanding can only be arrived at by studying the gonococcus as it occurs in the discharges, abscesses, and the like in the male suffering from gonorrhea, in the female, and in the eyes of the newly-born, together with cultivation and inoculation experiments, an investigation has been carried out on these lines, the results of which are detailed in the paper. The author first describes his

method of investigation, then alludes to the form and size of the gonococcus, the action of staining reagents, the detection of gonococci in the tissues of the host, the relation of gonococcus to the pus cells. The gradual process of pus-cell destruction is traced and described in detail; the relation of gonococci to epithelial cells and the stages of epithelial-cell destruction are next dealt with. With regard to the recognition of the gonococcus by the aid of the microscope, it is found that the form is not characteristic and the size not reliable, that gonococci are present in the pus of every untreated case at some period or other. Secretion free from gonococci does not cause a gonorrheal inflammation. Secretion containing gonococci, even small quantities, affects sensitive mucosa with absolute certainty. If no gonococci be found it cannot be said that the disease has not been gonorrheal. Where numerous other organisms are present—*e.g.*, in pus from the cervix uteri—the gonococci may be hidden; they may be embedded in the mucosa, appearing only at intervals in the secretion. The methods of cultivating the gonococcus are fully detailed and inoculation experiments added.

DR. HORROCKS asked if it were possible to obtain evidence of the presence of the gonococci in a tolerably easy manner. Also, what did the author mean by saying that a previous attack of vaginitis predisposed to gonorrhea? Did he mean gonorrheal vaginitis or some other form? He did not think that attacks of gonorrhea in either the male or the female predisposed to future attacks; on the contrary, he believed that repeated attacks rendered the mucous membrane affected less prone to attack.

DR. DAKIN said he was interested to hear the author's opinion that a large number of cases of pelvic inflammation ascribed to gonorrhea had probably not that origin. He would be glad to have Dr. McCann's views as to the length of time which should elapse before a previously occurring gonorrhea might be acquitted of the charge of causing a perimetritis or a pyosalpinx. It was a somewhat complicated but an important question.

DR. CULLINGWORTH asked the author what evidence he considered sufficient to warrant the conclusion that a salpingitis was of gonorrheal origin.

**A CASE OF TRUE UNILATERAL HERMAPHRODITISM WITH
OVOTESTIS OCCURRING IN MAN, WITH A SUMMARY
AND CRITICISM OF THE RECORDED CASES OF
TRUE HERMAPHRODITISM.**

DR. G. F. BLACKER and MR. LAWRENCE read a paper on this subject. The specimen described was classed under the subdivision of true unilateral hermaphroditism. It was obtained from an eight and a half months fetus and consists of a maldeveloped uterus unicornis with Fallopian tube and ovary upon the right side, while on the left side the genital gland has

the microscopical structure of both ovary and testis and is connected with a maldeveloped Fallopian tube and an enlarged Wolffian duct, representing epididymis and vas deferens. A summary is given of twenty-eight cases collected from the literature and described as instances of true hermaphroditism—viz. two of the unilateral, nine of the bilateral, and seventeen of the lateral kind. Reasons are given for accepting only Heppner's case among the nine bilateral and Obolonsky's and Schmorl's cases among the seventeen lateral as proved examples of true hermaphroditism. The specimen described in the present paper appears to be the only case of true unilateral hermaphroditism in man recorded up to the present time. From their examination of the reported cases the authors believe that the occurrence of true hermaphroditism in man is proved—that is, if the term be taken to mean merely the presence of different genital glands in one individual, without reference to the presence or absence of their functional activity.

DR. HERMAN said that these cases were so rare that there must be few Fellows of the Society competent to criticise Dr. Blacker's paper. He wished to express his own high appreciation of the instruction derived from it, of the labor which the authors had put into it, of the ability of the reasoning, and of the excellence of the microscopic sections.

THE PRESIDENT said that Dr. Blacker's paper was of a kind which from its very nature almost precluded discussion. Such papers, however, were of great value as scientific records in the Society's Transactions.

REVIEWS.

OBSTETRIC ACCIDENTS, EMERGENCIES, AND OPERATIONS. By L. CH. BOISLINIÈRE, A.M., M.D., LL.D. Philadelphia: W. B. Saunders, 1896.

The author is right in saying that "this book is not a treatise on midwifery." On the contrary, it is a collection of quotations from many authors (especially French), interspersed with references made to cases which have occurred in the writer's practice, but these cases are for the most part loosely described and add but little to the value of the work. Beginners in the study of obstetrics will gain only slight benefit from consulting this volume, because it does not cover as thoroughly as it should the ground mentioned in its title, and because much of the proffered advice is faulty and would have to be renounced in subsequent practice. Experienced obstetricians will hardly find it worth their while to separate the good advice from the bad. The illustrations are judiciously selected and are very clearly and accurately reproduced from other books, especially from the "American Text Book of Obstetrics."

Part I. is devoted to "Accidents to the Woman." In the chapter on "Abortion" the author says that he prefers to tampon the vagina "with cotton steeped in the perchloride of iron" to stop the hemorrhage; such treatment is hardly the best at our command. In the chapter on the important subject of "Puerperal Hemorrhages" there is much poor advice—e.g., in speaking of "accidental hemorrhage" (which, by the way, is not a "puerperal hemorrhage") the statement is made that "in case of uncontrollable hemorrhage the Porro operation would be called for"; in a case of placenta previa he says, "If the hemorrhage is at all serious, the resource preferable to any other is the use of the tampon." It must surely be unintentional to state that post-partum hemorrhage is "often fatal to the child." Some of the statistics quoted are not those generally accepted as representative of the results of modern obstetric work—e.g., the maternal mortality from placenta previa is put at twenty-five per cent, which is very much too high.

The reason for including "Induction of Premature Labor" in Part I. is not at all clear. Krause's method of inducing labor is undoubtedly the best in ordinary cases, but the author recommends also that the bougie be introduced and left in "for a short time" when the mother's condition demands *immediate delivery*.

In several places the writer deplors the fact that pelvimetry is not taught more extensively in our medical schools, but he also says that "a digital examination is all that is required in the great majority of cases." The assertion that "in a normal pelvis the true conjugate diameter is four and a half inches" needs verification.

Very few if any modern gynecologists will agree with the statements made under the headings "Rupture of the Perineum" and "Repair of the Perineum."

The chapter on "Eclampsia" shows careful study and considerable experience. While we consider venesection a most valuable resource in some cases of eclampsia, we are not prepared to agree with the author that "venesection, after all, must be admitted to be the chief reliance in the treatment of puerperal convulsions." That this writer believes thoroughly in blood-letting is evident from the fact that he recommends it for severe urticaria in pregnancy, for prevention of threatened abortion, for the suspension of labor pains, for "tetanus of the womb" (powerless labor), and for rigidity of the cervix.

Part II. deals with "Obstetric Operations." The chapter on "Abdominal Palpation" is very satisfactory, as is also that on "Podalic Version," which contains much good advice, but the teaching is not at all times clear—in doing a version the operator is told to seize both feet, if possible, but that it is safer for the child if only one foot is seized and used as a tractor.

In the article on "The Forceps" we are glad to note that "the correct use of the forceps is the best protector of the perineum," but we cannot commend the advice to apply forceps to an impacted breech, neither do we believe it wise to apply

forceps to check too rapid advance of the head. The assertion that "a slight roughening of the inner surface of the blades" in the author's own forceps aids in securing a good hold of the head shows an inadequate conception of how a forceps maintains its grasp. The recommendation to try "by backward traction to convert an occipito-posterior position into one of the face" will not find favor with experienced operators. The statements that "chloroform is safer than ether," and that the administration of chloroform should be preceded by a subcutaneous injection of one-half grain of morphine, cannot be accepted.

Part III. treats of "Accidents to the Child," such as prolapse of the funis, obstetric fractures, asphyxia, locked twins, etc.

E. A. T.

A TEXT BOOK OF BACTERIOLOGY. By GEORGE M. STERNBERG, M.D., LL.D., Surgeon-General U. S. Army. Illustrated by heliotype and chromo-lithographic plates and 200 engravings. Pp 682. New York: William Wood & Company, 1896.

Four years ago Dr. Sternberg published a "Manual of Bacteriology," which soon became a standard work on the subject, not only here but abroad. Being, however, a book of almost nine hundred pages, its usefulness was no doubt considerably restricted, students and general practitioners not being willing to buy such an expensive work. For the benefit of all those who do not care especially for detailed descriptions of non-pathogenic bacteria and the extensive bibliography contained in the "Manual," the text book before us was published. It comprises that portion of the "Manual" dealing with the most important pathogenic bacteria and bacteriological technology, revised to include all important additions to our knowledge of the pathogenic bacteria since the original date of publication.

This is all that the preface claims for this text book, and yet, if we turn over the pages, even the most casual observer must be astonished at the amount of knowledge embodied in the six hundred and eighty-two pages of the book. No bacteriologist will be disappointed by a perusal of the work, which should be found in every laboratory where this science is taught. As to the medical student, he will hardly find a better bacteriology in the English language. Dr. Sternberg has handled his subject in a masterly manner, devoting considerable space to the pathogenic bacteria which are by all conceded to be undisputed factors in the development of the particular affections, and yet mentioning more or less in detail all those which at one time or another have been described as being present in the various diseases. In the chapter "Bacteria in Infectious Diseases" we find no less than one hundred and twenty-one headings, some of which are, however, only mentioned in a few words. This chapter includes chancroid, cystitis, dysentery, eclampsia, eczema, endometritis, erythema, gangrene, lymphangitis, mas-

titis, nephritis, peritonitis, puerperal fever, pyemia, pyelonephritis, pyosalpinx, septicemia, etc.

The work is divided into four parts. Part I. deals with classification, morphology, and general bacteriological technology, including a short historical sketch. In this part the author leaves out all details, giving only the more important methods in staining and cultivation. The staining methods especially being extremely numerous, only those are mentioned which have proven the best in the author's hands. An interesting chapter is that on photographing bacteria, the writer having devoted much time to making photo-micrographs.

The Second Part is devoted to general biological characters, including an account of the action of antiseptics and germicides. Ptomaines and toxalbumins are described in a separate chapter. The chapter on the influence of physical agents upon the bacteria includes dry and moist heat, desiccation, light, electricity, pressure, and agitation. The action of gases and of the haloid elements upon bacteria, that of acids and alkalies, of salts, coal-tar products, essential oils, etc., of blood serum and other organic liquids, all receive attention, and the part closes with an excellent chapter on practical directions for disinfection.

Part III., which takes up considerably more than half the work, gives a concise description of the pathogenic bacteria, commencing with the modes of action, channels of infection, and susceptibility and immunity. The theories of immunity are described in detail: he mentions first the exhaustion theory; second, the retention theory; third, his own vital-resistance theory, that immunity depends upon an acquired tolerance to the toxic products of pathogenic bacteria; and, fourth, the theory of phagocytosis of Metschnikoff. The author is disposed to agree with the latter that in the property of its ameboid cells to include and destroy micro-organisms the animal body possesses a formidable means of resistance and defence against these infectious agents, but, in view of experimental evidence, cannot accept this theory as a sufficient explanation for the facts relating to natural and acquired immunity in general, and must regard phagocytosis simply as a factor which, in certain infectious diseases, appears to play an important part in enabling immune animals to resist invasion by pathogenic bacteria. Experimental evidence shows that in certain diseases acquired immunity depends upon the formation of antitoxins in the bodies of immune animals, and that tolerance to the toxic products of pathogenic bacteria, and phagocytosis, probably have considerable importance as secondary factors.

The descriptions of the pathogenic bacteria which follow take up the largest part of the rest of the work, commencing with pyogenic bacteria, followed by bacteria in croupous pneumonia and other pathogenic micrococci to the number of thirty-seven. The bacilli are next in order and are described as completely as possible, mentioning even a large number of unimportant ones. Pathogenic spirilla are also fully described.

The part closes with a chapter on bacteria in infectious diseases, in which a brief account is given of the researches which have been made relating to the presence of bacteria in various infectious diseases of man and the lower animals and in localized infections which have been supposed to be due to their presence, arranged alphabetically.

The last part treats of saprophytes, bacteria in the air, in water, in the soil, on the surface of the body and of exposed mucous membranes, of the stomach and intestine, bacteria of cadavers and of putrefying material from various sources, and, finally, bacteria in articles of food.

The plates and illustrations, partly original, partly copied from various works, are mostly very good, the original photomicrographs being frequently clearer than the copied ones. The work can certainly be recommended as one of the best of its kind.

L. H.

DIAGNOSIS AND TREATMENT OF DISEASES OF THE RECTUM, ETC., ETC. By WILLIAM ALLINGHAM, F.R.C.S. Eng., and HERBERT W. ALLINGHAM, F.R.C.S. Eng. Sixth edition. Illustrated. New York: William Wood & Company, 1896.

The experience of the Allinghams in St. Mark's Hospital for diseases of the rectum renders anything they write upon this subject interesting. The present new edition of this old work still bears the impress of Allingham, Sr., in its calm deliverance of personal opinions based upon personal observation and in its freedom from acrimony and argumentation. He builds his own structure, but does not tear others down. However much we may differ with such a man, we cannot but admire him and read from him with patience and allowances what we would deem prejudiced and unreasonable in others. He calls his book a "practical treatise," and therefore lays down for others what he has done himself and believes is the best to be done in these cases. There is no chapter on the anatomy and physiology of the rectum. The book would therefore puzzle the student who had not mastered the technical terms and divisions of these parts. There is no discussion of malformations of the rectum and anus. The authors evidently believe that the subject belongs to general surgery or pediatrics.

The chapters on "Fistula" and "Procidencia" are perhaps the best in any book on rectal diseases.

The chapter upon the "Treatment of Hemorrhoids" reminds us of the man who said, "I never drank anything but Bourbon whiskey in my life, and therefore I know that is the best." The ligature is the all-in-all for these operators. They have used it often, are perfectly satisfied with it, and do not care to experiment with any other methods, although they occasionally try them. The clamp and cautery operation, as they describe it, deserves all the criticism they heap upon it, but this is not the operation as practised in the United States. The only resemblance between them is that they are done with similar instruments. To any one who has ever seen this operation properly

done the description given in this book will appear crude and imperfect, and for those who have not seen it we feel called upon to warn them against accepting Dr. Allingham's technique and conclusions.

The chapter on "Resection of the Rectum" is deficient. The authors do not believe in the operation, although they say it should be done in two of the three classifications of cancer made on page 347—viz.: "(a) When the disease is near the anus, and healthy mucous membrane can be felt above the growth; (b) when the growth is higher up the bowel, but can be easily felt and is freely movable, although its upper limits may not be readily definable." These two conditions certainly embrace the majority of rectal cancers if seen early, and it appears to us that the fullest consideration of the methods of operation should be given in a book such as this. The chapter on "Colotomy" bears the impress of Allingham, Jr., and his well-known work upon this subject. It is full of useful suggestions and challenges comparison.

The chapter on "Neuralgia and Hysteria of the Rectum" merits special notice and the highest commendation. Nowhere have we seen such a clear, reasonable, and practical treatment of this subject.

On the whole this is a most interesting and able work. If we have criticised, it has not been simply to find fault, but in order to prepare our readers against accepting as final and modern teachings which are not indorsed by the majority of surgeons and rectal specialists. The book is eminently practical, the cases quoted are most appropriate, and for the practitioner it is full of interest and profit.

T.

BRIEF OF CURRENT LITERATURE.

OBSTETRICS, GYNECOLOGY, AND ABDOMINAL SURGERY,

IN CHARGE OF THE EDITOR AND DR. JULIUS ROSENBERG.

PEDIATRICS,

IN CHARGE OF DR. A. RAYMOND-SCHROEDER.

OBSTETRICS.

Aseptic and Antiseptic Deliveries.—Eustache¹ says that aseptic delivery is characterized by abstinence from vaginal examinations during labor and from injections of any kind during the whole puerperal period, with extreme precaution to secure perfect asepsis of all that comes into contact with the pregnant or parturient woman. In the technique of antiseptic

confinement he advises antiseptic vaginal douches, 1 : 2000 or 1 : 4000 bichloride, for fifteen days before labor, and especially just preceding that event ; wiping of the external genitals with such a solution during labor ; vaginal and intrauterine injections after delivery, and covering the vulva with an antiseptic pad, the vaginal douches being continued three times daily for one week, twice daily the second, and one each day thereafter. He says that aseptic delivery belongs to normal, unaided labors in healthy women in private practice and in hospitals with a limited *personnel* ; antiseptic delivery must be employed in all labors needing assistance, in large maternities, and in women suffering from an affection which diminishes the resistance of the tissues, as chronic or intercurrent infectious diseases. Under aseptic conditions one or two vaginal examinations do not necessitate changing to antiseptic treatment when the finger has not passed the cervix. When such a change is necessary, injections during labor are required only when there is a fetid discharge, and the intrauterine are not given unless the uterine cavity has been affected, while vaginal injections are limited to one a day. All injections after labor should be given by the physician ; better renounce them entirely than entrust them to the nurse. Whatever method has been used, the temperature should be taken night and morning for at least ten days, any rise indicating the necessity of further antiseptic measures. He further says that under the above treatment mercurialization may occur, in event of which the bichloride should be replaced by phenol, lysol, or other antiseptic.

Strict asepsis in midwifery is urged by G. K. Johnson,^{*} who says that every case of labor should be regarded and managed as a traumatism, as some solution of continuity in the genital tract nearly always occurs.

Dilatation of the Perineum in Labor.—G. Coromolas,^{*} in describing the technique of the dilatation of the perineum in labor, advises smearing the aseptic fingers with an ointment of vaselin with six per cent each of cocaine and antipyrin, which is also applied to the perineum, vagina, and os uteri. He describes a method of manual dilatation. This procedure guards the perineum against rupture, hastens delivery, and greatly diminishes its pain.

Delivery of the Placenta.—The delivery of the placenta under various circumstances is treated by G. E. Larin.^{*}

Faradization of the Uterus.—Wishing to hasten a protracted labor, Poitou-Duplessis^{*} employed a faradic current for five minutes, the electrodes being applied to the cervix and abdominal wall. The uterine contractions became energetic and the cervix dilated rapidly.

Delivery with Unruptured Membranes.—J. W. Kales^{*} records the otherwise normal and entirely unassisted labor at full term of a girl of 16, who gave birth to a living child of eight pounds with the membranes intact.

Abortion, its causes and treatment, are reviewed by W. K. Evans.^{*}

Missed Abortion.—F. R. Eccles* says that the symptoms are usually vague. Generally there have been signs of pregnancy which lessen or disappear, irregular losses of blood with some pain and uterine contractions, diminution of the size of the abdomen, and a period of deranged health. In one case which he reports hemorrhage was absent and there was incessant vomiting and prostration; in two other irregular hemorrhages and poor health were noted.

Dystocia due to Retention of Urine by the Fetus.—The patient having a contracted pelvis, it was decided to induce labor at about the eighth month. O. Saintu* delivered the head, shoulders, and thorax with ease, but an immense distension of the fetal abdomen caused great difficulty in the rest of the labor. The child did not urinate until the next night, when it passed a large quantity of urine and catheterization removed more. The child died the evening after, and at the autopsy the bladder was found to extend to the ensiform cartilage above, and laterally to the sides of the abdomen. The urethra was perfectly patent.

Ectopic Gestation.—A. J. McCosh¹¹ reports fifteen cases of extrauterine pregnancy treated by operation, with one death. In one case three successive ruptures of the fetal sac took place. The first, that of the Fallopian tube, occurred probably about the fifth week, its contents escaping into the broad ligament and leaving a large blood clot in the tube. Rupture of the broad ligament about two weeks later was accompanied by severe pain and uterine hemorrhage, and resulted in a large hematocele in the pelvic floor which later became sacculated and ruptured at the tenth or eleventh week with hemorrhage into the peritoneal cavity.

Two cases of ectopic pregnancy were successfully operated upon by the vaginal route by W. W. Beckett.¹² W. J. Smyly¹³ operated upon a ruptured tubal pregnancy by the vaginal route. Fever set in on the fourth day and collapse on the sixth. By an abdominal incision it was found that the uterus had torn away from its attachment to the vaginal wound and that the intestine was gangrenous. Six inches of this were removed and recovery followed. Smyly also describes a case of hemato-salpinx, presumably due to tubal pregnancy, though no ovum was found. In operating by abdominal section for ruptured extrauterine pregnancy, A. H. N. Lewers¹⁴ found intraperitoneal hemorrhage and the sac occupied by a tubal mole. Recovery followed. W. G. Macdonald¹⁵ says that as surgical treatment is generally conceded to be proper for ectopic pregnancy, it is to the subject of diagnosis that attention should chiefly be directed. His article treats mainly of this portion of the subject, and contains reports of seven operations for ectopic pregnancy with two deaths. J. Price¹⁶ also describes the symptoms and urges operative interference. In cases in which the child reaches full term it may easily be removed and saved, but, on account of the great danger to the mother in removal of the placenta, operation should never be delayed when the diagnosis

has been made. The child should be sacrificed rather than the mother. Two successful celiotomies for ruptured ectopic gestation with intraperitoneal hemorrhage are described by F. R. England" and one by R. B. Maury." R. B. Hall" records a successful celiotomy for unruptured ectopic pregnancy. From the placenta, which protruded from the fimbriated end of the tube, hemorrhage had been going on for five months. A recovery after removal of both tubes and ovaries for tubal pregnancy of one side and hydrosalpinx of the other is reported by A. L. Smith." A case of *ovarian pregnancy* is reported by J. Oliver." The right ovary was a closed sac containing a full-grown fetus and placenta but no fluid, the fetus being covered with inspissated sebaceous matter. No rupture in the Fallopian tube was detected. The ovary was removed through an abdominal incision. Recovery. Oliver" says that external hemorrhage is so frequently observed with ectopic pregnancy, whether the ovum completes its development or dies at a more or less early period, that it constitutes a common symptom of the disorder. When the impregnated ovum is lodged in the Fallopian tube the hemorrhage may come from either the tube or the uterus, and probably in most cases from both. About the twentieth day after conception the chorionic villi begin to become vascular, but before this the presence of the segmenting ovum has so stimulated the structure harboring it that the blood vessels in and under the mucous lining of the Fallopian tube have begun to increase in size. As these vessels increase in size the unembedded portion of their walls tends to become more and more thin, and toward the ends of the ovum, where they are virtually unsupported, they rupture on the slightest provocation. The ovum is grasped by the tube, which encircles it like a belt, and at this level the maternal vessels are so supported that they seldom rupture spontaneously. The blood which flows from the neighborhood of the ovarian pole of the ovum will, if unimpeded, run into the peritoneal cavity, while that from the uterine pole will flow externally. Blood derived from the Fallopian tube may make its appearance externally as early as the twentieth day after impregnation. During an ectopic pregnancy the uterus usually becomes somewhat enlarged and from it membranous shreds are occasionally expelled. Their extrusion is generally accompanied by a hemorrhagic discharge from ruptured vessels in the uterine mucosa itself. As early as the tenth or twelfth week of an ectopic gestation these deciduous membranes may be expelled, but, independently of their existence, blood may be poured out by the vessels of the uterus as early as the sixth or seventh week. Correlatively with increase in size of the uterus the venous sinuses in its lining membrane become enlarged and, receiving no special support in consequence of the absence of any opposing structure in the cavity of the uterus, tend readily to rupture.

Tolerance of the Pregnant Uterus.—As instances of the tolerance of the pregnant uterus, E. Ozenn' describes a case in which a pencil of iodoform was placed in the uterus and

remained twenty-four hours, another in which a sponge tent occupied it for forty-eight hours, and a third in which, after removal of a cervical polypus and introduction of a sound into the uterine cavity, an intrauterine douche was given. In none of the cases was pregnancy disturbed. Accidental or surgical traumatism acting at a distance does not usually influence pregnancy, but that in the genital region disposes to abortion. Since, however, the latter not infrequently does not affect the continuation of pregnancy, intervention is justifiable either when demanded by necessity or to remove anything which may later prove an obstacle to the normal course of gestation.

Post-partum Inversion of the Uterus.—Hink." Vpara, æt. 26. Pregnancies had followed each other in rapid succession. The child was born before the midwife had made any preparations. While the latter was absent for a few minutes the woman called out and it was found that the placenta was expelled and the vulva the seat of a tumor, which was recognized as the inverted uterus. A hastily summoned physician administered chloroform and attempted to replace the uterus. He was, however, not successful and transferred the patient to the hospital, where she died.

Haberda¹¹ demonstrated a specimen of uterine inversion at the Budapest Medical Society. The midwife made traction upon the cord to see whether the placenta was adherent, whereupon the uterus became inverted. A physician found the placenta still adherent to the inverted uterus. Attempt at reposition failed; the woman died.

Inversion of the Uterus.—Complete inversion of the uterus is recorded by G. Fowler." The placenta was found attached to the anterior uterine wall. The midwife denied the use of traction. Reduction was effected, but death occurred seven hours after labor.

Rupture of the Uterus.—Braun." A woman sustained a rupture of the uterus after being in labor thirty-six hours. She was put on a train and reached the hospital twelve hours later. The pelvis was of the malacosteon type. The uterus was ruptured in its posterior wall; the child had escaped into the abdominal cavity. The uterus was removed after some delay. Intraperitoneal treatment of the cervix, with gauze drainage through the os into the vagina. The woman did not recover.

J. C. MacEvitt¹² describes the symptoms of uterine rupture. Of the treatment he says: If the head presents, deliver by forceps, the uterus being steadied by pressure; this failing, craniotomy, or celiotomy if the child is alive; in other than vertex presentations with a dead child, embryotomy; with a living child, podalic version may assist, but care is necessary to avoid increasing the rupture. When the child is partly in the peritoneal cavity try to deliver per vaginam, but when entirely in the abdomen celiotomy must be done. the uterus being douched with weak carbolic solution one week after suturing it. Amputation of the uterus is justifiable if the rent be too irregular to unite properly. Where the child has been delivered through

the vagina and septicemia follows, celiotomy for removal of septic material is proper. In other than celiotomy cases daily irrigations and drainage are requisite.

Fritz Burger.⁴⁴ The author was called to a multipara, but on account of bad roads he could only reach her after a delay of several hours. Upon arrival he found the woman in a state of collapse. An arm protruded from the vagina, and the palpating hand showed that the uterus had ruptured and the child was in part in the abdominal cavity. The extremely poor surroundings and the absolute lack of assistance precluded the performance of a successful laparotomy, and Burger concluded to deliver per vias naturales. The hand encountered numerous coils of intestines in the vagina and uterus, which were replaced through the rent after the extraction of the child. The uterus contracted well after a free administration of ergot; the hemorrhage was trifling. The patient appeared quite comfortable, and recovery proceeded favorably under the administration of opium and the ice bag upon the abdomen. Eleven days post partum Burger was again hurriedly summoned and found the woman's condition changed for the worse. The temperature was high, the abdomen painful, and large blood clots passed per vaginam. The patient informed the doctor that her husband returned the previous night in a state of intoxication and forced her to sexual intercourse; since then she felt bad. In spite of this the woman recovered, and exactly nine months and six days later Burger was again called to the patient, when he found that the woman had just been delivered of a living boy and that an adherent placenta formed the complication. The placenta was adherent to the scar of the old rupture, which could plainly be felt. Again a year later the woman gave birth to a child; the placenta was also adherent, but this time the patient fell a victim to post-partum hemorrhage; she died before medical aid could reach her.

Accidental Hemorrhage.—Accidental hemorrhage at seven months is reported by M. A. Tate.¹⁷ Rapid delivery by high forceps saved the patient.

Cardiac Disease during Pregnancy.—In connection with the prognosis of pregnancy and labor in a patient with heart disease, M. Mazier²⁵ publishes nine cases, observed in the Clinique Baudelocque, in which women so affected were delivered of healthy children without unfavorable results.

Carcinoma of the Cervix complicating Pregnancy.—Supravaginal amputation of the cervix for carcinoma was done by C. A. Morton²⁶ during the fifth month of pregnancy. Abortion occurred on the fourth day, and the patient was discharged four weeks after the operation.

Eclampsia.—E. A. R. de Cotrel⁴ says that careful watching of the pregnant woman, especially during the last half of pregnancy, should include frequent urinary examinations. While milk is recommended for pregnant women at all times, it should be made the sole article of diet if prodromic symptoms of eclampsia appear. For an approaching attack he advises vene-

section, purgatives, diuretics, and chloral, never induction of abortion; during the attack, prevention of self-injury, and the above remedies with the addition of inhalations of chloroform; after the attack, milk diet, tonics, and rigid antisepsis after delivery.

J. C. S. Gauthier⁴ recommends practically the same treatment, but speaks highly of *veratrum viride*.

G. Inverardi⁵ reports two series of cases of eclampsia, the first from 1887 to 1892, the second from 1893 to 1896. In the first series there were sixteen cases with five deaths, in the second eleven cases with only one death. A comparison of the two series shows that the clinical manifestations were not so different as to permit of the belief that a relative benignity could account for the happy results. The author believes these to have been due to the treatment adopted, which was based upon the theory that the infection is formed within the fetal organism and finds its way into the maternal circulation. The author gives at length his reasons for this belief. The treatment is the following: When a patient has not yet reached term, and prodromal or actual symptoms of eclampsia are present but not dangerously severe, he contents himself with obtaining *profuse* intestinal evacuations. Tincture of jalap is given in one-ounce doses as frequently as three times in twenty-four hours, and a milk diet is prescribed. If labor is imminent, and especially if the eclamptic symptoms are severe, the fetus is extracted as rapidly as possible. Labor is also brought on in cases where intestinal torpor prevents a response to the jalap treatment; the uterus once empty, the intestines must be evacuated, even if, by reason of coma, the remedy has to be administered by means of an esophageal tube. The author is convinced that treatment addressed to the liver and intestines, or to the removal of the infected "fetal parasite," will give better results than narcotics, diuretics, or diaphoretics.

L. Knapp.⁶ The material comprises 4,480 cases of labor which were observed in four and a half years in the Prague Maternity Hospital. Amongst these there occurred twenty-two cases of eclampsia; the majority were primiparæ. In about ten per cent the first attack took place before the beginning of labor, and in five per cent during the puerperium. The largest number of attacks observed in a single case were fifteen. Albuminuria was present in all cases, while albumin and casts were found in sixteen cases. The quantity of albumin present and the casts do not permit conclusion as to the prognosis of the case. Twin pregnancy existed in two cases. In seventeen cases labor was terminated through operations; in the remaining five the eclampsia occurred during the puerperium. In seventy per cent of the cases the termination of labor exerted a favorable influence on the disease, and the author consequently advises early delivery.

T. K. Clarke⁷ records four cases in which he has performed venesection for eclampsia. In three of these the convulsions were promptly terminated, and in the other no effect was

noticed for twelve hours, when the patient gradually improved and a miscarriage was followed by recovery.

The use of *veratrum viride* for eclampsia is advocated by R. E. Haughton."

An article on *veratrum viride* in eclampsia and clonic convulsions from other causes, by C. D. Hurt," treats of the physiological and therapeutical action of this drug, which he advocates more strongly in these affections. Nine illustrative successful cases of eclampsia and three of clonic convulsions caused by reflex irritation, as by undigested food, are given. He believes that eclampsia is, in every case, the result of some influence directly or indirectly exerted upon the nervous system, causing a derangement of its functions; that such influence may be direct violence or mechanical pressure; that one or more of these influences may reach the nervous system by absorption and through the circulation; that by chemical changes wrought in the system toxic elements may be created and prove deleterious. Certain elements, harmless when in normal proportions, may exert a toxic influence when they exist in the body in abnormal quantities, urea being the compound most frequently so considered. Plethora increases susceptibility to an apoplectic condition and excessive irritability, and under these circumstances the crowding of the blood into the lungs and brain materially interferes with the nervous system. The emotional nature of some women helps to precipitate an eclamptic seizure, and a previous abnormal or pathological condition, as chronic malarial chills, not dependent on the puerperal state, may produce an attack.

Labor complicated by Cicatricial Stenosis of the Os Uteri.—Clivio" describes a case in which cicatrices had formed over the mouth of the uterus as the result of a previous operation for carcinoma. Dilatation was accomplished by means of incisions and Tarnier's dilator; craniotomy was performed and the fetus extracted. The puerperal period was normal. The author discusses operations for this condition, and gives the opinion and experience of twenty or more different authorities, reaching the conclusion that in cases of carcinoma of the vaginal portion of the cervix, in women who have not yet reached the menopause, vaginal hysterectomy is to be preferred to high amputation of the cervix. In cases of pregnancy complicated by carcinoma of the cervix, radical treatment, even if it does endanger the life of the fetus, is to be preferred to a partial operation or to expectant treatment based upon the hope of saving the child.

Pregnancy complicated by Fibroids.—F. W. N. Haultain," in reporting eight cases of pregnancy complicated by fibroids, says that these tumors greatly interfere with fertility by preventing conception and tending to produce abortion. When associated with pregnancy they frequently cause much difficulty in its diagnosis by masking the usual signs of uterogestation and being themselves markedly reacted on by pregnancy. They increase the risks of pregnancy by preventing

ready delivery, predisposing to severe hemorrhage and complicating the puerperium. The treatment should be entirely expectant. When serious symptoms appear each case must be treated according to the position, size, etc., of the fibroid, by removal, induction of premature labor, or hysterectomy. The adoption of any method exclusively cannot be too strongly condemned.

Gangrene of the Leg in Puerperal Women.—Two cases of gangrene of the leg in puerperal women are described by T. Oliver.¹ In the first, right brachioptegia with transitory difficulty of speech occurred fourteen days after a normal confinement, and was succeeded by popliteal thrombosis and consequent gangrene of the foot and leg. Amputation above the knee was followed by recovery. In the other case pneumonia appeared four days after confinement, and a few days later endocarditis was discovered, followed by embolism of the right popliteal artery. The leg was amputated above the knee, and death occurred nineteen days later from pneumonia and exhaustion.

Placenta Previa.—J. A. Ouimet² calls attention to the fact that in cases of placenta previa hemorrhage may occur although the fetus is dead and macerated, and that the best means of arresting such hemorrhage is to rupture the membranes.

A case of partial placenta previa is recorded by C. Pierson.³ Delivery was accomplished by version, and inversion of the uterus with a small submucous fibroid was discovered. Replacement of the uterus by manipulation was followed by recovery.

Puerperal Pulmonary Thrombosis.—J. L. Lackie⁴ reports the sudden death of a strong, healthy primipara of 26. Pregnancy, labor, and the puerperium were normal, except for extreme edema of the lower limbs during the last few weeks of gestation. The urine showed no signs of albuminuria. An unusually small quantity of blood was lost during and after labor. On the eleventh day she was lifted on to a couch and then seemed perfectly well. On the twelfth she walked from the bed toward a chair, a distance of about twelve feet. Just as she reached the chair she exclaimed that she was dying, complained of excessive shortness of breath, and instantly collapsed on the floor. Her face became livid, she struggled for breath, but very speedily became unconscious, and in spite of stimulation died within eight minutes. At the autopsy all the organs seemed healthy, but a white, dense, and fibrinous thrombus was found adherent to especially one side of the pulmonary artery and extending into both branches and their ramifications for some distance. On the surface of this clot there was more recently coagulated blood. The right ventricle was also occupied by a recent dark purple clot. Lackie believes this case to have been one of primary pulmonary thrombosis, because (1) there were no symptoms or signs, before or after death, of peripheral thrombosis in the extremities or broad ligaments; (2) the catastrophe occurred on the twelfth

day, before there was time for any softening of a peripheral clot, had such existed, and at the time when puerperal thrombosis supervenes, wherever the situation may be; (3) the appearance and relations of the clot suggested that it had been formed *in situ*; (4) the patient was a primipara, the class in which pulmonary thrombosis is most common.

Ante-partum Pelvic Abscess.—Three cases of pelvic abscess beginning before labor are described by F. Dunlap," who thinks that when pus is known to exist in the pelvis at that time it should always be emptied, through the vaginal or abdominal incision, as the individual case indicates.

Puerperal Sepsis.—E. Montpetit' says that in puerperal sepsis the absorption may be by either veins or lymphatics; phlebitis occurring in severe and generalized septicemia; lymphangitis in the form localized in the ganglion. He deprecates antiphlogistic treatment and favors antiseptic intrauterine irrigation, asepsis of the external genitals, and the application of ice or blisters to the abdomen. In an article on puerperal septicemia G. A. Lacombe' dwells chiefly upon the various accompanying lesions and the treatment. R. R. Kime" says that the sharp curette and gauze tampon should never be used in puerperal sepsis. He advises irrigation with disinfectants, removal of loose substances from the uterus by the finger, forceps, or dull curette, tubular drainage with capillary drain in addition if desired, but never a gauze tampon, and salines to move the bowels. E. E. Montgomery" presents an article on the same subject.

Pozzi" says that *intravenous injections of normal salt solution* in severe cases of puerperal sepsis, and subcutaneous in lighter cases, are very useful in relieving intravascular tension, exciting the phagocytic function and eliminating toxins. Two or three litres may be used daily with good results, but one must be sure that the kidneys are active. Bar" describes a case of streptococcus infection four days after labor. This having caused a pleurisy, and injections of serum of Marmorek proving ineffectual, the pleura was aspirated several times, its contents being replaced, the last time, by salt solution. The temperature remaining high and the case being apparently hopeless, intravenous injections of twelve hundred cubic centimetres of salt solution were begun on the sixteenth day. Each was followed by chills, sweating, and fall of temperature, which subsequently rose again. After several days subcutaneous injections of fourteen hundred cubic centimetres were substituted and improvement continued.

Peripheral Neuritis in Pregnancy.—One such case is described by T. L. Magee," recovery being complete eighteen months after confinement. G. Ehder" reports two cases in which the symptoms disappeared in about three weeks after labor in one instance and in as many months in the other. After considering its etiology he says that, as fatal cases have occurred, labor should be induced before the disease advances too far, as after emptying the uterus there is a tendency to

recovery. Sepsis must be carefully avoided, as nearly all cases of peripheral neuritis have followed a fevered puerperium. Further treatment resembles that of the disease when of other origins.

The Participation of the Optic Nerve in Puerperal Polyneuritis.—Schanz." A woman 38 years old had a normal confinement after a normal pregnancy. Three weeks post partum she had a long walk and became overheated and fatigued. Three days later she noticed loss of vision in the right eye. The left eye also became affected and within four days she was totally blind. Simultaneously with the blindness severe headache developed, localized mainly in the occiput. She also had severe vertigo; this to a slight extent existed during pregnancy. Next she noticed a loss of sensation in the extensor surface of the right arm and of the face. Ataxia was not present. Loss of sensation and motion gradually involved the whole body, and she died, after two weeks' illness and five weeks post partum, from paralysis of the respiratory muscles. Repeated ophthalmoscopic examination showed optic neuritis.

Pemphigus complicating Pregnancy.—A patient of J. A. Reid" was attacked with acute pemphigus during pregnancy. Labor occurred six weeks later without influencing the disease. The fetus was free from eruption. Recovery occurred in the eleventh week of the illness.

Tuberculosis and Pregnancy.—The influence of pregnancy upon tuberculosis is discussed by Gaulard."

Lactation.—K. S. Howlett" advocates feeding infants from the maternal breast alone, not only on the child's account, but for the good that accrues to the mother—the exciting of uterine contractions, the promotion of involution, the prevention of early pregnancies, etc. He says that typhoid fever would probably necessitate weaning the child. In pneumonia or malarial fever the flow of milk may be kept up or re-established after recovery without great trouble. The same is true of puerperal troubles, unless very severe or prolonged. The re-appearance of the menses is no contraindication to continued nursing; neither is pregnancy during the first few months. If the child has enough vitality to be kept alive it will soon gain the required strength, although at birth it may be too weak to draw milk from the breast, and the only thing upon the part of the child that makes artificial feeding necessary is some congenital deformity about the mouth (harelip, etc.) which prevents it from sucking.

Symphiseotomy.—A year after symphiseotomy at term, by which a dead child was delivered, the patient died of cerebral embolism accompanying endocarditis at the seventh month of another pregnancy. Moussous" describes the osseous lesions found in the pelvis at the autopsy.

Cesarean Section.—A Cesarean section done on account of transverse contraction of the pelvis through its entire depth is reported by C. Maygrier." The patient was able to nurse her child on the second day and rose on the twentieth in good

health. Cesarean section with favorable results to both mother and child was performed by W. J. Sinclair." Lordosis was extreme and the left hip was ankylosed, the thigh pressing upon the abdomen. Obstruction to normal labor by a cysto-fibroma springing from the lower part of the back of the uterus necessitated a Cesarean section by R. Pollard." The patient died from shock. Filippo" records two successful cases of Cesarean section with suture of the uterus and ligature and resection of the tubes. The author compares the former mortality of the operation with that of the present time, which is very low, and even then due mostly to the fact of the patients coming under observation only after labor has commenced, and after midwives and unskilful practitioners have by repeated examinations and manipulations managed to introduce any number of noxious germs. In regard to the question of rendering the patients sterile to avoid future operations of the same nature, he believes that the woman herself and not the physician should be the one to decide.

Porro Operation.—R. E. Cutts" records a Porro operation done by J. E. Moore on account of pelvic deformity resulting from coxalgia. The child was saved, the mother dying in forty-eight hours from shock. He gives a table of ten Cesarean sections and Porro operations done in Minnesota since 1880, the mother being saved in six cases, the child in eight.

Use of Ergot.—In an article upon induced premature labor in certain diseases of the mother not obstructing delivery, J. G. Swayne" reports a case which in itself seems a sufficient criticism of the use of ergot before the uterus has been emptied—a form of treatment constantly referred to in European journals. On account of the patient's poor health, and in order to save the child which was becoming feeble, it was determined to induce labor at the seventh month. The introduction of sponge tents of increasing size caused slight pains, and to introduce stronger ones one fluidounce of ergot was given in two doses. Strong pains followed, brow presentation occurred, and after some time the child was expelled, dead. As the placenta did not come away in half an hour, he introduced his hand and found the uterus in a state of hour-glass contraction, the placenta filling the upper portion. In order to detach it he was obliged to pass his hand quite up under the ribs and to use his finger nails on account of its adhesion. It weighed two and three-quarter pounds and appeared to be undergoing fatty degeneration. The patient remained greatly prostrated and died three days after delivery.

Emmenagogue Action of the Senecionideæ.—Through experimental and clinical investigations of the emmenagogue action of the Senecionideæ—the family to which ragweed and groundsel belong—Dalché and Heim" have been convinced that it relieves pain connected with menstruation when the genital organs are free from any lesion, but cannot make any positive statement concerning its influence upon the abundance of the menstrual flow.

Bardet and Bolognesi " consider the extract of senecio, administered in doses of two to five grammes, beginning with twenty-five centigrammes and increasing by the same amount each day, is an excellent emmenagogue and absolutely inoffensive. Its results are constant and favorable in amenorrhea; in dysmenorrhea it favors the flow but does not increase it, and seems to have no influence upon the pains. In larger doses, and those of increased quantity from the first day, it produces utero-ovarian congestion with pain, which seems to indicate that in large doses it would produce abortion by acting upon the system in general as well as the genital organs.

Thyroid Tablets in Amenorrhea.—H. Harms' records the case of a married woman, 35 years old, who had never menstruated. The uterus was retroverted and adherent, infantile in size; right ovary prolapsed, adherent to side of uterus; left ovary atrophied and resting on broad ligament. Tampons failed to loosen adhesions. A goitre having appeared, it was treated successfully by thyroid tablets, and menstruation has twice occurred. The uterus is now retroverted, but little adherent, size normal, both ovaries rather larger than normal. Harms believes the change due to the stimulating effect of the thyroid tablets upon the atrophied ovaries.

Thyroid Extract in Pelvic Contraction.—Braun." A woman with a funnel-shaped pelvis and exostosis of the pubic spine was delivered by craniotomy after futile forceps attempts; the child was very large. In a subsequent pregnancy thyroid extract was administered, beginning at the fourth month, with the idea of decreasing the weight of the child. In the beginning the woman gained in weight, later she lost steadily. The child was much smaller and could be delivered with the forceps. It is questionable whether the smaller child was caused by the administration of thyroid extract.

Pelvic Outlet.—Brindeau " contends that the plane of the outlet should be described as passing through the ischial spines and the fourth tubercles of the sacrum. This usually cuts the pubic symphysis at its lower third and passes nearly through the articulation of the fourth and fifth sacral vertebræ. He says that this is preferable to the usually accepted landmarks—the apex of the sacrum, the lower border of the lesser sacro-sciatic ligaments, the ischial spines, and the pubo-spinous lines—as these are not in the same plane.

Contracted Pelvis.—When the true conjugate measures nine centimetres or more, C. Fournier " believes that pregnancy should be allowed to go on to term; with a true conjugate less than nine centimetres induction of premature labor is indicated as a matter of prudence, though in pelves of eight to nine centimetres it may at times be unnecessary.

The Anatomy of Rape.—W. C. Goodell " says that complete penetration with ejaculation of semen is not necessary to prove rape; partial penetration of the male organ between the lips of the vulvar orifice, with or without ejaculation, is sufficient. Defloration of a very young virgin, even without the

use of force, should show evidences of rape from the disproportion in size between penis and vagina. He believes that the hymen is of the greatest value in determining whether coitus has taken place, and that it is often impossible to detect signs of rape when penetration has been but partial. Abrasions from attrition of the clothing or from traumatism cannot always be differentiated from marks of violence due to the penis.

Traumatism of the Genital Organs during Pregnancy.

—F. Villa "concludes an interesting article upon this subject as follows: 1. It has been proved that it is quite possible to operate upon the genital zone of Guéniot with little risk of interrupting pregnancy. 2. Operations should be undertaken only after due and conscientious deliberation. 3. Certain lesions occurring during pregnancy should be treated as if the uterus were empty; these are polypi, free follicular cysts, extensive lacerations opening the cervical canal, rigid cicatrices, cicatrices incarcerating follicular cysts, or those with painful nodes or continuous with the exudations of parametritis. 4. Threatened abortion, instead of contraindicating operation, should rather induce it, if due to any removable cause.

Superfetation.—P. Gustin "reports a case of superfetation in which a fetus of three months and one of six weeks were expelled during the mother's convalescence from typhoid.

Teratogenesis.—J. W. Ballantyne "gives a scholarly review of the theories of the past concerning the origin of monstrosities, treating in this article the physical causes which have been advanced for their explanation.

Abortion of Four Fetuses, One Monstrous.—A report of M. Günsburg ' of the abortion at the fourth month of four fetuses includes a description of one which was a monster. Three were males and one a female. The mother returned to her work in five days.

Congenital Tumor.—J. R. Morison ' describes a congenital tumor of the face situated over the fissures between the superior maxillary, frontal, and nasal bones of the right side. It was surrounded by a sulcus whose outer margin presented two tubercles, one of which had cut a temporary incisor tooth, the other being about to do so.

Cyst on the Back of an Infant.—M. Günsburg ' found the head of the dead infant already outside of the vagina. The birth of the body was prevented by what proved, after perforation had allowed complete delivery, to be a cyst situated on the back. It closely simulated the head of another infant.

Placzek " demonstrated, before the Berlin Medical Society, an infant born with *paralysis of the right arm* after a perfectly normal labor. The paralysis was thought to be of cerebral origin, possibly caused by a traumatism which the woman sustained during the seventh month of gestation. It is interesting to note that a 12-year-old brother has also a congenital paralysis of the right arm, and the other four children of the woman are healthy. The practical value of this observation is obvious, as it may save obstetricians from undeserved reproach.

Hermaphroditism?—C. Beck " has recently removed from a patient of 22 the undescended testes of both sides for round-celled sarcoma, the larger tumor weighing three pounds, the smaller eight ounces. The patient, apparently a man, was beardless and had a feminine voice; mammae slightly enlarged. The penis, two and one-third inches long, possessed perfect corpora cavernosa and glans, but the urethra was represented by a mere depression. There were two well-developed labia majora. An infundibulum behind the penis contained four openings. Rupture of a semilunar membrane, in the largest and most posterior, gave access to a vagina four inches long, at whose upper extremity a well-developed uterus was palpated; no verification of this after the abdominal section is mentioned. The urethra was at the anterior end of the infundibulum, and on each margin of the latter, about half an inch above its lower end, was an orifice admitting a fine probe about a third of an inch. The patient claimed that he had had intercourse with women since the age of 15 and that ejaculation of three or four drops of semen occurred through these openings each time. He had never menstruated.

Another case of so-called hermaphroditism is described by J. W. Long, " the patient resembling a woman in many respects.

Syphilis of Conception.—G. R. d'Aulnay " thus concludes a pamphlet upon the subject: The so-called syphilis of conception has many points of similarity to hereditary syphilis: it is a "decapitated syphilis," or one without chancre or adenopathy, and from the beginning it is a general disease; it is transmitted in the same manner—namely, through the placental circulation; as a rule it is benignant so far as the mother is concerned, but very serious as regards the fetus. It appears either during pregnancy, immediately after labor or abortion, or perhaps some time after. It may be manifested by roseola and various syphilides and proceed to the tertiary stage, or it may, but rarely, begin with tertiary symptoms. Frequently, also, it may develop without any cutaneous or mucous manifestation at all, revealing itself only by persistent cephalalgias, nervousness, lassitude, slight fever, emaciation without appreciable cause, alopecia without lesion of the scalp, chilliness, abundant sweating without hyperthermia, osteocopic pains, and periostitis of the tibia, ribs, and clavicle simulating rheumatism.

Etiology, Pathogenesis, and Cure of Puerperal Osteomalacia.—C. C. Pavia " gives a detailed study of the disease, beginning with its history, which goes back to a case in the year 560. Osteomalacia is frequent in pregnant and parturient women, caused (the author believes) by the drain upon the system of frequent pregnancies together with insufficient alimentation and poor hygiene in general. Psychical disturbances may also predispose to the affection. The bones of the pelvis are those most frequently attacked. The morbid process consists in a softening of the bones from the removal of calcareous salts; as a rule the bone becomes a mere shell of peripheric

tissues, and in some cases the periosteum and marrow alone remain. The pathogenesis has been and still is the subject of countless theories; many of them are given in full by the author. His own conclusion is that the subject remains *sub judice*; that it is exceedingly complex; and that, lacking more convincing demonstrations as to its origin, he is satisfied that repeated pregnancies predispose to the disease by their effect upon nutrition, that a deficiency in the introduction of calcareous salt upon the one hand, and on the other a greater consumption of such salts as are in the system by the demands of the fetus, further act as a causative influence. The prophylaxis of the disease is simply good air, proper food, sanitary dwellings, and the avoidance of repeated pregnancies and prolonged lactation. The medicines of greatest value are phosphorus—which holds the first place—iron, cod-liver oil, and milk plus lime water. Heat by means of baths or vapor baths, or simply by the prevention of evaporation by wrapping the body in cotton or in oil silk, are recommended by Trousseau. Medical treatment of osteomalacia is at best merely temporary in its effects. Surgical treatment seems to promise hope of relief. Castration, first used by Fehling in 1887 with a view to curing patients suffering from osteomalacia, has in his hands and those of many other operators given brilliant results. Within three to four months after the operation the patients were practically cured. Why castration should be thus efficacious is not yet understood, but the fact that it is so justifies its being undertaken when neither hygienic nor medical treatment has succeeded in arresting the progress of the disease.

Deciduoma Malignum.—Deciduoma malignum is defined by H. R. Spencer" as a malignant disease of the body of the uterus (occurring presumably at the placental site), arising in association with, or more commonly subsequently to, pregnancy, and rapidly terminating fatally, with secondary growths in various organs of the body, more especially the lungs and vagina. It is characterized microscopically by large cells of various shapes, of which some occur singly or in groups, and others in fused masses with large, deeply staining nuclei resembling enormous giant cells, the so called "syncytium." This syncytium, when at all abundant (in his own case it formed the principal part of the tumor), gives to the growth an appearance under the microscope totally unlike that of any other which he has met with in the uterus. It resembles closely the syncytium or layer of fused cells which forms the outer coating of the normal chorionic villus, and it seems probable that the syncytium of deciduoma malignum develops from that of the chorionic villus, though this is denied by some authorities. The origin of the syncytium of the chorionic villus is still much disputed. While some consider that it arises from the epiblast of the fetus, others believe that it arises from maternal mesoblast. The deciduomal syncytium is, like the normal syncytium, vacuolated. Another characteristic feature of the growth is the presence of extensive hemorrhages, which are

teen years before. McWeeney in the pathological report classifies the growth as *molluscum fibrosum*.

Suturing Recent Lacerations of the Perineum.—Like Lawson Tait and J. Veit, Apfelstedt² found that lacerations of the perineum very frequently do not heal per perineum. Tait advises not to suture recent lacerations, but to perform a perineorrhaphy at a later date. With this Apfelstedt does not agree, but he modifies the primary operation and claims excellent success.

Recent perineal tears form a unique class of injuries, in so far that primary union is expected under the most difficult circumstances. From the beginning of the healing process the wound is constantly bathed with fluids of a more or less septic character, and although the vaginal lacerations are closed by sutures, these sutures not only do not prevent the entrance of micro-organisms into the wound, but facilitate this. It must be remembered that the opening left by the needle is not entirely filled by the suture, and although the elasticity of the tissues closes this to a certain extent, there yet remains ample room for the entrance of microbes. To this is added the capilarity of all sutures except the metal ones.

Apfelstedt advises to unite the perineum entirely by perineal sutures, and not to apply any sutures which lead into the vagina or rectum. His method is as follows:

The chloroformed patient is placed in the lithotomy position. The wound is freed from clots and dried; if necessary the edges are trimmed with scissors. The wound is spread apart as far as possible, and the first suture is placed two millimetres below the meeting point of the vaginal laceration. The suture, which penetrates the tissues deeply, enters the skin close to the edge of the wound. About six to seven sutures are required in complete lacerations, and the last suture, which unites the torn sphincter muscle, is placed two millimetres above the meeting point of the two edges of the torn rectal mucous membrane. The yet gaping vaginal and rectal wounds are covered with iodoform collodion or dermatol.

Pelvic Examination without Laparotomy.—A method of examining the pelvic contents which renders exploratory laparotomy unnecessary in certain conditions, and which he has used for finding and demonstrating tubal pregnancy, hydro- and pyosalpinx, broad-ligament and ovarian cysts, occluded tubes, pelvic adhesions, and uterine fibroids, is described by W. R. Pryor.³ For two days before the operation the vagina is kept filled with gauze wet with 1:5000 bichloride, for the purpose of loosening the superficial epithelial layers, and the patient is shaved twenty-four hours before operation. At the time of operating the woman is placed in the lithotomy position, the external and internal genitals rendered aseptic, the uterus curetted and flushed with salt solution. After irrigating the vagina with Thiersch's solution the uterus is pulled down by strong, blunt traction forceps and a transverse incision, about an inch in length, made in the vaginal mucous mem-

brane at its point of reflexion from the back of the cervix. While making downward traction upon the uterus and posterior flap the finger is pushed upward to the internal os, and the peritoneum is now cut, if not already perforated. If a digital examination of the pelvic contents proves unsatisfactory, the incision is enlarged by introducing two fingers and separating them laterally, a scalpel being rarely necessary. The medium blade of the long Péan retractor is introduced into the pelvic cavity, the traction forceps removed, and with the Péan trowel the uterus is forced up behind the symphysis. A gauze pad with string attached is introduced to keep up the intestines, and the patient, though still in the lithotomy position, is thrown into Trendelenburg's. By sponges on forceps the intestines and omentum are pushed into the abdomen, after freeing any existing adhesions. Should the digital examination have demonstrated the probable existence of pus foci to which the intestines are attached, the latter should be separated before putting the table into Trendelenburg's position, in order to prevent escape of pus into the abdominal cavity. In such cases a complete diaphragm of gauze pads is put between the pus foci and intestines above and the Trendelenburg position secured. When, however, the collection of pus is sufficient to cause any degree of adhesions, the diagnosis can usually have been made without the exploratory incision. Having examined the pelvis, all fluid is wiped away, the uterus swabbed and packed full of iodoform gauze, and the gauze pads removed. A loose plug of gauze is then inserted just within the vaginal incision, filling it so as to prevent protrusion of the intestine, and the vagina is packed with gauze. Catheterization is provided for. On the third day the uterine packing is removed without irrigation and the vaginal replaced. The cul-de-sac plug is changed in from seven to ten days. These dressings are done in Sims' position, supporting the cervix anteriorly with the trowel, and are repeated until the wound closes, which it does rapidly, leaving an insignificant scar. In this operation the azygos artery of the vagina is severed, the bleeding being controlled by forcipressure, no nerves of sensation are severed, the incision is below the line of the broad ligaments, the uterine arteries, and ureters, and the blunt tearing, being parallel with the branches of the vaginal artery, does not divide them.

Two cases of delivery at term of women who had submitted to this operation, after having previously miscarried twice consecutively, are reported by B. Torrens.* In both cases the scar tissue in the cul-de-sac had so disappeared as to be undetected.

Hysterectomy.—H. G. Wetherill" records eight cases of supravaginal amputation with two deaths, and two vaginal and three abdominal complete hysterectomies, all of which recovered. In closing the abdomen he considers irrigation and drainage unnecessary when the peritoneum has been subjected to periodical leakage of pus, as he believes it acquires immunity to serous infection and can dispose of even virulent pus. In choosing the method of hysterectomy he advises: (1) the

serre-neud or rubber ligature only where great rapidity is required and no blood must be lost; (2) total hysterectomy by celiotomy when it is necessary for any reason to go in from above the symphysis, and, on account of cancer or other disease, to remove the whole uterus; (3) supravaginal amputation in all other cases where hysterectomy by celiotomy becomes necessary—*i.e.*, large, not malignant fibroids, septic tubo-ovaritis with a large, boggy, infected uterus, and in hysterectomy of the pregnant uterus before or after delivery, etc. (this method is valuable as preserving a normal vagina, an important matter to a married woman); (4) vaginal hysterectomy for cancer or sepsis, and all other conditions where hysterectomy is necessary and the size of the organ permits removal by the vagina, excluding cases in which dense adhesions of bowels or other viscera make celiotomy preferable for the purpose of securing clean and complete removal of all diseased tissues and the repair of damaged or torn viscera.

Ventrosuspension of the Uterus.—Mayo Robson¹¹ believes that the necessity for ventrosuspension usually arises only where adhesions are present, other cases being suitable for the operation of shortening the round ligaments or less heroic measures. In the treatment of extreme prolapse or procidentia of the uterus ventrosuspension without supplementary operations usually fails, but is advisable in some cases when colporrhaphy and perineorrhaphy are also done.

Vaginal Fixation.—H. N. Vineberg¹² has performed vaginal fixation by a suture of silk or silkworm gut on either side, passing around the round ligament and part of the adjacent broad ligament one or two centimetres from the horn of the uterus, and through the vaginal flap. A suture is also passed transversely across the anterior surface of the uterus, midway between the fundus and internal os, and thence through both vaginal flaps which had been formed by a longitudinal incision.

The Vaginal Extirpation of the Carcinomatous Uterus.—Olshausen¹³ restricts the indication for this operation. He excludes as non-operable all cases in which the parametria are already infected, because a recurrence must soon occur. Out of one hundred operated on during the last few years he lost only one patient.

Vaginal versus Abdominal Route.—W. J. Gow¹⁴ believes that for the removal of ovaries and tubes for severe inflammatory disease the abdominal route is the safest and best. He appends a report of thirteen cases upon which he has performed anterior colpotomy.

Vaginal Hysterectomy.—A résumé of the technique of vaginal hysterectomy is given by J. L. Wiggins,¹⁵ who reports a case in which, the patient being in a state of septic infection at the time of operation for carcinoma of the cervix, death occurred four days later.

Vaginal Atresia.—An article upon vaginal stenosis and atresia by E. H. Lee¹⁶ is concluded by the report of a case of

imperforate introitus vaginae. The patient, aged 22, married, had never been sick up to her nineteenth year, with the exception of pains in the back and abdomen at intervals during the previous two years. A severe attack of pain at 19. repeated a month later, led to the discovery of an atresia, which was punctured and the woman married. Sexual intercourse was impossible. Examination showed the vestibule covered with skin, which was continuous from the perineum to the urethra and laterally between the labia. A very fine probe was with difficulty inserted into the artificial opening, and, using it as a guide, the atresia was incised and dilated as much as possible. In order to obtain a larger vagina the perineum was split, leaving only a thin septum between rectum and vagina. The vaginal mucous membrane was loosened and sutured to the external skin, and the seat of operation packed with iodoform gauze. When the sutures were removed a week later the opening would admit the thumb without causing pain. Kelly, in a similar case, did not split the perineum, which should be done whenever subsequent contraction is liable to occur, although it may possibly cause prolapsus.

Double Uterus and Vagina.—Consolas " records a case of double uterus and vagina. Pregnancy terminated successful once on each side, slight instrumental assistance being required in the first labor. The vaginal septum, thick and succulent during pregnancy, became thin and inelastic at other times, but the patient refused to permit its division.

Double Cervical Canal.—L. Q. Spaulding " reports a case of double cervical canal, the external openings being three-fourths of an inch apart and bearing an antero-posterior relation to each other. Nothing in the case indicated an origin other than congenital. Both orifices were quite patulous.

Cervical Stenosis.—H. P. Newman " believes that cases of stenosis of the cervix which are classed as congenital are usually due to persistence of the normal natal type, and urges the importance of proper hygienic conditions and management at the age of puberty for its prevention.

Artificial Dilatation of the Cervix.—M. L. M. Bossi " describes his cervical dilator and the manner in which it is employed. By its use complete dilatation can be obtained in fifteen to twenty minutes. Even in a uterus which is entirely inert it excites contractions.

Carcinoma of the Uterus.—A case of carcinoma of the uterus considered too far advanced for vaginal hysterectomy, the patient's condition contraindicating operation, was treated by F. B. Jessett " with zinc chloride after curettement. A recto-vesical fistula formed, but closed spontaneously. That the caustic action extended to the peritoneum is shown by the presence of the pouch of Douglas and utero-vesical fold in the slough, which came away, without, however, any sign of peritonitis. Four months later the patient was in good health. Jessett " also reports the performance of total abdominal hyste-

rectomy for adenocarcinoma of the uterus and hemorrhagic cyst of both ovaries. Recovery.

Vaginal hysterectomy has been successfully performed in three cases of malignant disease of the uterus by F. A. Purcell."

Total Vagino-abdominal Hysterectomy at term for Carcinoma.—A case is reported by E. Amadei." The mother and infant were doing well five and a half months subsequent to the operation.

Anteflexion of the Uterus.—G. E. Keith* advocates the treatment of anteflexion by Dudley's operation. In this the posterior lip of the cervix is divided longitudinally almost to the vaginal mucous membrane. Each of the raw surfaces so formed is doubled on itself and secured by sutures. The incision now appears transverse and the os is drawn backward, straightening the uterine axis.

Retroflexion of the Uterus caused by Amputation of the Cervix.—Gottschalk" thinks that amputation of the cervix is done much too often. Many do the operation in cases of prolapsus vaginæ because the cervix appears at the time too long. Experience, however, has shown that after a colporrhaphy continued rest in bed suffices to cure an even marked hypertrophy of the cervix. Amputation of the cervix is often the cause of successive miscarriages, and painful cicatrices in the fornices also result from the operation. It is also frequently responsible for malpositions of the uterus. The patient is then unable to wear a pessary and consequently has to undergo another operation to rectify the position of the uterus. Gottschalk publishes five cases in which the uterus became retroflexed after the cervix was amputated. The following is typical of all: M. H., æt. 27, entered clinic February 4th, 1893. In March, 1891, patient was delivered at full term; she sustained a deep laceration of the perineum, which was not sewed. She soon complained of symptoms of prolapsus, and underwent (at another clinic) a perineorrhaphy and amputation of the cervix. The woman stated that for three months she suffered from abdominal pain and backache, which prevented her from earning her living. The perineum was the seat of a perineorrhaphy scar which extended to both sides of the columna rugarum posterior. The cervix was completely absent and replaced by a thick scar which surrounded the normally wide os. The uterus was retroverted, could be placed in a normal position, but on account of the absence of the cervix a pessary could not retain it there. Gottschalk performed ventrofixation, with uneventful recovery, the operation relieving her sufferings and restoring her ability to work. She conceived a few months later, but a history of the pregnancy and labor could not be obtained. Although Gottschalk has an extensive gynecological practice, he performs cervix amputation only about twice a year, and even then is careful to preserve a normally long cervix, because he believes that this organ has a physiological function to perform.

Retroversion of the Uterus.—Bosche' records a case of

retroversion with adhesions cured by ventrofixation, trachelorrhaphy, and curettement.

The technique of the surgical procedures for retroversion and retroflexion is described by A. H. Goelet." He prefers suspensio uteri to either Alexander's operation or vaginofixation.

Prolapse of the Uterus.—In discussing the treatment of uterine prolapse F. W. Talley " recommends ventrofixation with plastic operations upon the vagina. After the menopause, supravaginal amputation by the abdominal route is preferable, the stumps of the broad ligaments being sutured to that of the cervix and forming strong supports for the vagina.

A New Method of curing Complete Prolapsus Uteri (trachelopexie ligamentaire).—Not satisfied with the methods in vogue, Jacobs " advises supravaginal extirpation of the uterus and the suturing of the cervix to the ligamenta infundibulopelvica. This fixes the uterus high in the pelvis. If necessary this operation may be augmented by plastic operations.

Procidentia Uteri.—Hysterectomy was performed by W. J. Smyly " for procidentia uteri.

Foreign Bodies in the Uterus.—J. Kohl " presents an article with this title.

Endometritis.—R. Waldo " condemns the use of caustics in the treatment of endometritis, and has discarded astringents as a principal factor. For the chronic corporeal form he accepts the method of dilatation, curettage, irrigation, and loosely packing with iodoform gauze.

In treating of curettement for endometritis M. L. Moore " says that the uterus should be drawn down only enough to steady that organ, because when it is dragged low down in the pelvis patients complain of pain in the ovarian region, although none has existed there previously.

In an article on endometritis J. G. Blount " strongly deprecates the use of caustics for the cure of this affection and advises curettement, drainage, and rigid asepsis.

Uterine Fibroids.—H. Schiller " describes the technique employed by Veit in the treatment of myomata. Through an incision in the anterior fornix, like that of vaginal hysterectomy, the bladder is separated by the finger from the uterus. The cervix and lower part of the body are incised and the myoma enucleated. If impossible to remove it through the anterior incision, it may be reduced in size or a posterior incision like the first may be made. Hysterectomy is justifiable when unforeseen uterine lesions are discovered, when intraligamentary and submucous tumors coexist, when malignant degeneration of the myomata is found, or when the fibroids are both submucous and interstitial. A. Dixon " records a death from volvulus seven days after hysteromyomectomy. Two operations upon the same patient for fibroids are recorded by W. B. Dorsett." At the first a subperitoneal fibroid was removed, and seventeen months later complete abdominal hysterectomy was done for rapidly developed fibromata of all varieties. W. Stokes " records a supravaginal hysterectomy for multiple

fibromata. The entire mass removed weighed, when drained of blood, nineteen and a half pounds, patient recovering. H. Tweedy " successfully removed, by morcellation, a submucous fibroid which weighed two pounds and completely occluded the vagina. W. J. Smyly " reports the removal of four myomatous uteri by pan-hysterectomy, two by the abdominal route, the others through the vagina by morcellation. All the cases were doing well. In considering the indications for operation, G. E. Shoemaker " says that all painful bleeding growths, all associated with septic inflammation or which are growing rapidly, and all likely to obstruct labor should be removed. Heart, lung, or kidney disease may be a contraindication. Oöphorectomy for the cure of fibroid is undesirable. Of the forms of hysterectomy, that by ligature through an abdominal incision is preferable. A. H. Tuttle " also writes of the time and manner of operating for fibroids. When hysterectomy is to be done he prefers the vagino-abdominal method.

Trachelorrhaphy.—A. H. Goelet " describes a new knife and needle which he uses in a modified trachelorrhaphy.

Ovarian Neuroses from a Surgical Standpoint.—The question of the surgical treatment of so-called ovarian neuroses resolves itself almost entirely, in the opinion of J. M. Baldy, " into one of diagnosis. Unless it is determined that a woman's symptoms arise directly or indirectly from pelvic disease, the case is one for the neurologist. The subject divides itself into hysteria, hystero-epilepsy, and insanity, the first class including neurasthenia, ovaralgia, ovarian dysmenorrhea, and reflex nervous symptoms of all kinds. These cases often believe that their suffering arises, if not primarily at least secondarily, from pelvic disease. In such we must ascertain whether a physical disorder can be demonstrated by pelvic examination, whether the symptoms are manifested only through these organs, and, if pelvic disease is present, whether the nervous trouble began prior to the disease or simultaneously. It must be remembered that neurasthenia, hysteria, etc., may exist at the same time as such actual disease as ovarian cysts or fibroids, yet independent of them. In hystero-epilepsy the tendency should be against surgical interference, but a patient with such symptoms, occurring only at menstruation, and not existing before puberty, is a fair subject—when every other treatment has failed after thorough trial—for double oöphorectomy. Baldy thinks that while certain physical ailments have been shown to coexist frequently with insanity, their causal relation has not been demonstrated. He has never seen a case in which the pelvic lesions warranted the assumption that they were the cause of insanity, so has never operated for this reason. In regard to physical suffering from such diseases, he believes that the insane should be given the same relief as would be afforded to a patient of sound mind, and that it is possible that mental well-being may be restored at the same time.

Conservative Operations on the Ovaries.—R. Donnel "

says that ignipuncture and partial resection of the ovaries applied to the treatment of diffuse ovaritis and of sclerocystic degeneration are efficacious for the pain and menstrual troubles. Fecundity is not influenced and pregnancy and labor are not disturbed. The operations are both without gravity and never produce the troubles observed after double castration. They are indicated whenever a young woman, in whom signs of chronic ovaritis exist, suffers from pain in the ovarian region, with or without menstrual flow; when the uterus is healthy or presents a lesion curable by minor operation, such as curettement, amputation of the cervix, etc. In other cases the permeability of the tube is absolutely necessary. The operations are contraindicated when, besides an ovarian lesion, there exists a disease incurable by minor operations, such as old chronic inflammation of the uterus, etc. In such a case vaginal hysterectomy should be performed. When the menopause is near, and all the genital apparatus appears diseased, hysterectomy is preferable, even if the uterine lesions may be cured by lesser measures.

Ovariectomy.—A. Smith "reports the removal of a tube and ovary for ovarian abscess and pyosalpinx. He also removed in another case a large multilocular ovarian tumor adherent to the abdominal wall and intestines, controlling hemorrhage by purse-string sutures. In both cases drainage was used and recovery followed. In another case he removed a unilocular ovarian tumor, the size of an adult head, from a child of 13. Rapid recovery. Phocas "records a recovery after removal of a dermoid cyst of the ovary which had caused peritonitis. H. Tweedy "has successfully removed an ovarian dermoid extending two inches above the umbilicus and containing hair and part of the lower jaw with many teeth. H. G. Croly "records the successful removal of a multilocular ovarian cyst, the largest section of which contained two gallons of fluid. He also describes a case in which an enlarged and misplaced spleen, diagnosed as an ovarian tumor, was excised. In a few days vomiting of greenish fluid began, with symptoms of collapse, and death occurred. J. B. S. Holmes, "in a report of surgical cases, records thirteen oöphorectomies with one death from cardiac thrombosis. A successful oöphorectomy for dermoid cysts of both ovaries is reported by R. B. Hall. "Hair, bone, and teeth were found in the tumors. Oöphorectomy was performed by R. C. Elsworth "for ovarian cyst with twisted pedicle. The patient did well for a day and a half, then died suddenly from rupture of the ovarian vein three inches above the pedicle. J. A. Reid "successfully removed both ovaries, which were cystic, on account of profuse menorrhagia which resisted other treatment. R. Condamin "describes two cases in which complete removal of ovarian cysts was prevented by adhesions. They were marsupialized, and when recurrence took place were easily removed, traction of the abdominal adhesion having drawn the portions adherent in the pelvis into a sort of pedicle. Four successful ovariectomies are described

by W. Stokes." From this experience, and that of eight cases with two failures previously reported, he feels confident the preparatory treatment has much to do with success of this operation. He advocates a tolerably free rather than a very limited incision. The number and firmness of adhesions do not appear to militate against ultimate success of an ovariectomy, if they are properly treated, carefully abstaining from breaking down those which do not yield to gentle pressure, and ligaturing all older and firmer adhesions with aseptic catgut before dividing them with scissors. The pedicle is usually best tied with one sterilized silk ligature, but multiple ligatures may be required if the pedicle is very short and broad. To diminish the chance of forming hematomata by punctures of the pedicle he employs a blunt needle in placing the ligature. If this latter is properly applied sloughing of the stump need not be feared. Post-operative treatment must be left to the discretion of the individual surgeon. He believes the operation should be no longer regarded as belonging exclusively to the province of the specialist, but may be done in most cases in the general hospitals. F. E. Row " records the case of a woman who was successively and successfully operated upon for multilocular cyst of each ovary, and by inguinal colotomy and excision of the rectum and part of the vagina for cancer.

Ligature in Oophorectomy.—The objections to the Tait-Staffordshire knot and the interlocking or link ligature are, according to C. B. Penrose " : the liability to slip; the difficulty or impossibility of removing all the ovary and tube; the fact that the broad ligament is puckered and made more tense than normal, and so may cause subsequent pain and discomfort; an unnecessary amount of tissue is strangulated. He overcomes these difficulties by ligating the distal and proximal portions of the ovarian arteries as follows: The first ligature is passed through the broad ligament near the pelvic wall and includes the proximal portion; the second through the upper part of the broad ligament at the uterine cornu, securing the distal portion. The second ligature may include the Fallopian tube, if the isthmus is not diseased, or pass below it if the tube is to be removed. If any bleeding occurs from the intervening broad ligament after removing the ovary and tube, it can be controlled by a separate ligature or continuous fine silk suture uniting the peritoneal edges. For convenience the infundibulo-pelvic ligament may be cut when the first ligature has been applied, and bleeding from the distal end checked by forceps until the tube and ovary can be brought well through the incision and the second applied.

In order to remove pus tubes without rupture, I. S. Stone " clamps the tube near the uterus and also the ovarian artery. These may be ligatured before or after cutting. The tube is cut off at each end and then enucleated. If an infected stump remains exsection of the uterine cornu is demanded.

Prolapse of the Ovary.—Temporizing in the treatment of

prolapse of the ovary is considered by H. C. Crowell " as simply deferring what must eventually be done to effect a cure: fixation of the ovary by stitching up the infundibular ligament; ventrofixation when associated with retroversion; puncturing or cauterizing ovarian cysts and then restoring the organ to proper position; removal of the prolapsed ovary, which is usually best.

Influence of the Puerperium upon Ovarian Cysts.—Löhlein " draws attention to changes in ovarian cysts under the influence of the puerperium. These changes are often accompanied by violent symptoms. During the year 1894 he observed and reported five cases in which the puerperium was the cause of torsion of the pedicle; he now adds two new cases. In one case the pedicle was twisted, in the other the contents of the cyst became septic. Puerperal infection in the latter case could be excluded, and he traces the origin of the septic germs to the colon, to which the cyst had become adherent. As predisposing causes he considers the relaxation of the abdominal walls and the great length of the pedicle, drawn out by the growing uterus.

Hemorrhages into Ovarian Cysts.—Löhlein. " These are caused by more or less sudden circulatory disturbances, as seen after torsion of the pedicle; they are also observed in cysts the walls of which have undergone malignant degeneration. A case reported by Löhlein concerns a woman who was six months pregnant. For two months she complained of pains in the left lower extremity. When seen the bowels were constipated and could not be moved; vomiting, tympanites, and rapid pulse were present. The left side of the abdomen showed dullness on percussion. Laparotomy showed that the abdomen contained, besides the pregnant uterus, a tense ovarian tumor with twisted pedicle and distended by a recent hemorrhage. The woman did not recover. In a second case the direct cause of the hemorrhage was bodily exertion during the menstrual period. The large ovarian cyst, which contained two litres of coagulated blood, was successfully removed.

Intraligamentous Ovarian Cysts.—V. Brigidi " believes that intraligamentous ovarian cysts are cases of dislocation of the ovary beneath the peritoneum, and that later they may undergo cystic degeneration. He describes in detail two cases which bear out his theory. As a further support to his views he gives the following facts in regard to the cysts in question: 1. Women suffering from these lesions are, as a rule, sterile; this would naturally be the case if the displacement were bilateral. 2. In the bilateral cases both cysts may be of voluminous size, or one may be large and the other small. 3. There may be a large cyst upon one side, and upon the other a rudimentary ovary or one which has undergone atrophy or aplasia. 4. The ectopia may be unilateral, in which case the patient may have borne a child before the occurrence of cystic degeneration of the displaced ovary. If both ovaries underwent degeneration one would be an ordinary ovarian cyst and the

other an intraligamentous ovarian cyst. 5. Supplementary ovaries or ovarian germs in the broad ligament might become cystic and the ovaries still remain in normal position; or an ovary in normal position might become cystic and by contact with an intraligamentous cyst form one large tumor, which would lead one to believe that an ovarian tumor had developed in a downward direction and between the folds of the broad ligament.

Inclusion of Tumors in the Broad Ligament.—Pichevin,* in reporting an ovarian cyst which had grown between the layers of the broad ligament so as to be included by them, speaks of the necessity of diagnosis, during operations, between true tumors of the broad ligament and those which, as in the case of a pyosalpinx bound down by adhesions, simulate them yet require a different form of operation.

Ureteritis and Pyelitis in Tubo-ovarian Disease.—A. J. Nyulasy* describes a case of ureteritis and pyelitis complicating tubo-ovarian disease.

Intrapelvic Inflammation.—A plea for conservatism in the surgical treatment of intrapelvic inflammation is entered by T. C. Biddle,* who urges medical treatment in many cases. Writing upon the subject of the resolution of inflammatory pelvic exudates by laparotomy, A. Mangin* describes a case in his practice in which simple abdominal section was followed by rapid absorption of a tumor of this character.

Septic Pelvic Diseases.—F. Henrotin,* in considering the treatment of septic pelvic diseases, advocates incision of the vaginal wall followed by free drainage of all purulent collections found. In acute exacerbations of old troubles a posterior vaginal exploratory incision should be made before deciding upon hysterectomy.

Streptococcus Infection.—G. Durant and L. Siron* report a case of streptococcus infection treated by curettement and injections of antistreptococcal serum; death after fall of temperature.

Abdominal Fibromata.—R. Sasaki* reports the removal of twenty-one fibromyomata from an abdominal cavity. They were loosely adherent to the peritoneum and were situated in various parts of the abdomen, from the symphysis pubis to the liver. Death followed the operation.

Cystosarcoma Papillomatousum.—The successful removal of a partly solid and partly cystic tumor of the abdominal wall is reported by G. M. Edebohls.* Judging from the history, it had existed for three years as a benign growth before assuming the character of a cystosarcoma.

Adenomyoma of the Round Ligament.—T. S. Cullen* records the following: L. N., aged 37; married thirteen years; one instrumental labor seven years ago; first menstruated at 14; menses regular until birth of child, since then every three weeks, very copious and lasting four or five days. The latter part of each period has been attended with a good deal of pain

lasting several days after the flow. About eight years ago she noticed a slight inguinal swelling, which has gradually increased, especially the last two years. She had sharp, cutting pain in the nodule, most severe after exertion or during menstruation, and radiating to her back. The tumor, removed by Kelly from the upper part of the right labium, was closely connected with the round ligament, which contained a smaller nodule. Several enlarged lymphatic glands were removed. Recovery. The tumor consists of irregularly arranged, non-striated muscular fibres which have undergone hyaline degeneration at several points, islands of adipose tissue, numerous blood vessels, and glands, like those of the uterine mucosa, running in all directions through the nodule. In many places the glands present a peculiar arrangement, corresponding to the pseudo-glomeruli described by Von Recklinghausen. The lymphatic glands are normal in structure, but enlarged. Cullen believes that the excessive pain in the nodule at the menstrual period indicates a definite sympathetic relation between it and the uterus. As the growth existed eight years and increased very slowly, he considers these adenomyomata as benign tumors. While admitting the probability that the glands in this case were due to remains of the Wolffian body, he suggests that they may have originated from an abnormal embryonic deposit of a portion of Müller's duct.

Cancer of the Great Omentum.—Fourmeaux "reports a case of cancer of the great omentum secondary to that of the ovaries. Death from pulmonary infarct followed the removal of the growths.

Cholesteatomata.—Two cholesteatomata originating in the female pelvis are described by J. Oliver." One was a cholesteatoma of the ovary, the other of the broad ligament independent of the ovary. Being very adherent, the cyst was, in both cases, simply drained. Recovery followed.

Movable Kidney.—Of the etiology of movable kidney, I. S. Stone "says it is highly improbable that tumors have much influence, unless through pathological adhesions to the capsule. Corset-wearing, also, is probably not responsible for it, and he doubts any such influence of the liver upon the right kidney. In discussing its treatment, he suggests that possibly as much harm is done by pressure upon the intestine as there is good or comfort from the use of a bandage and pad. Nephrorrhaphy is, in good hands, a safe operation.

Gangrenous Cystitis.—J. Collins Warren "records a case of gangrenous cystitis with exfoliation of the bladder wall. The patient now experiences no difficulty in retaining or passing her urine, which is normal.

Gangrene of the Female Genitals and Perineum in Continued Fevers.—W. W. Keen "has sixteen cases of gangrene of the female genitals or perineum following typhoid and four cases following typhus. In seventeen of these there was gangrene of the labia, extending sometimes to the perineum and thigh. He describes a case partially reported in 1877. The

patient, 34, married, had a severe attack of typhoid. About the fourth week the labia minora sloughed away to a great extent and urine and feces passed through the vagina. She was admitted to the hospital a few months later with two large vesical openings which had destroyed the posterior part of the urethra and floor of the bladder up to the uterus, and one rectal opening an inch in diameter and one and one-half inches above the anus. After eleven conservative operations the urethra was excised and the vulva closed. Defecation, micturition, and menstruation occurred through the rectum without trouble. A fistulous opening in the vulvar cicatrix was closed by a thirteenth operation. Menstruation ceased in 1887, over eleven years later. In December, 1888, she complained of rectal and vaginal pain with intermittent micturition, and a calculus in the vagina was removed through the rectal opening after crushing. In May, 1896, a small fistula appeared at the vulvar cicatrix, through which urine dribbled, but this closed spontaneously in two weeks. For over twenty years the patient has enjoyed perfect health with the exception of the calculus and temporary vulvar fistula.

Tuberculosis of the Female Genitals and Kidney.—A. Vander Veer "says that tuberculosis of the external genitals is rare and is sometimes mistaken for carcinoma, as it appears as a wart-like growth, like a hardened split pea, and when the discharge is great there seems to be a tendency to more rapid necrosis with increase of odor. Tuberculosis of the internal genitals usually begins in the tubes and extends to the uterus. The ovaries are seldom affected. Tuberculosis of the kidney may be either miliary or general, or caseous or true tuberculosis. The most important sign of this trouble is a rise of temperature at night, for several days, with no discoverable lesion.

Tubercular Peritonitis.—In treating this subject A. Hane" describes its etiology, pathology, symptoms, course, and treatment.

R. Abbe "says that tuberculous peritonitis may be, and in the early stages often is, the only seat of the disease, so that operative cure of the peritonitis may cause general recovery. Laparotomy with evacuation of ascitic fluid has cured many cases, as ascitic fluid acts as a good culture medium and by its fluidity aids dissemination. Irrigation with warm salt solution is preferred, and camphor-naphthol, as used by Rendu, for bad cases.

Peritoneum.—The studies of B. Robinson "sustain the view that the diaphragmatic serosa is the only portion of the peritoneum where absorption takes place, but he has not definitely confirmed the opinion that perforations of the membrana limitans are confined to this region. The finding in the subserous region of the diaphragm of granules of carmine, after injection into the peritoneal cavity of fluid containing this substance, seems to indicate the existence of a current toward that portion of the abdomen. Severe inflammation of the female genitals

causes almost complete desquamation of the endothelium covering them. The rapid absorption which can occur through the peritoneum is a strong indication for abdominal drainage as prophylaxis against septic peritonitis.

Peritonitis.—Two cases of acute general peritonitis in which recovery followed simple abdominal incision and drainage are presented by G. Heaton."

Femoral Hernia.—W. Rose " reports a case of strangulated femoral epiplocele whose contents and adjacent skin were gangrenous, and an irreducible femoral hernia containing the vermiform appendix and omentum. The former recovered under antiseptic treatment, the latter after operation. M. Rosenwasser " has successfully operated upon a woman 87 years of age for strangulated femoral hernia.

Coccygodynia.—Two cases are described by L. Bremer " for the purpose of showing that excision of the coccyx may aggravate instead of relieve pain in that situation. In all cases of coccygodynia which he has seen a history could be elicited, if not of hysteria or an allied neurosis, at least of the hysterical temperament. In all a provoking agent, as traumatism, parturition, etc., could be demonstrated. This pain is almost always a symptom of hysteria, sometimes apparently monosymptomatic. A spastic condition of the retractors of the neck and a trace of aphasia are valuable as leading to the diagnosis of hysteria.

Appendicitis.—A. J. Bloch " clamps the appendix at two points near the cecum and cuts between. A fine silk suture is then passed through the anterior and one through the posterior lip of the stump, the lumen of the latter is dilated, and through it are passed the needles attached to the sutures just inserted. These pass through the cecum and emerge together through its opposite wall, invaginating the stump of the appendix, the aperture left being closed by Lembert sutures. The traction sutures are then cut short and allowed to recede into the intestine, and the needle puncture closed by Lembert sutures. A successful operation of this sort is described.

Diseases of the Rectum.—W. C. Burke " says that simple rectal ulcer is one of the causes of pelvic pain frequently overlooked, its presence causing engorgement of the pelvic viscera. He gives a classification of such ulcers and their etiology, symptoms, and treatment.

J. R. Pennington " thinks that on account of its rich nerve and blood supply, important relative position and function, and the frequency with which it is attacked by disease, the rectum is second to no other organ as a source of reflex phenomena. He cites a case in which marked symptoms of ovarian disorder disappeared after removal of internal hemorrhoids.

A successful operation for prolapse of the rectum of five years' duration is described by W. W. Beckett."

Post-operative Intestinal Obstruction.—E. Boise " says that post-operative intestinal obstruction occurs (1) as tonic muscular spasm; (2) as true intestinal paralysis; (3) from the

formation of new adhesions ; (4) as a result of pre-existing constriction not discovered or relieved at the time of operation. To avoid the formation of adhesions the intestines should be handled as little as possible. When they must be held by gauze, pads, or towels these should be saturated with warm soda-salt solution, as they are then less liable to remove the endothelium. Raw surfaces should always, if possible, be covered with peritoneum. He believes that the use of cathartics in cases of spasmodic abdominal pain after section serves only to aggravate the existing irritation and increase the tonic obstructive intestinal contractions which cause the pain. He therefore strongly urges the use of opium, preferably codeine, in order to relax the intestinal muscles. It not only relieves pain, but converts the spasmodic contraction into normal, painless, though active peristalsis. The use of codeine does not promote the formation of adhesions, as the intestines are moving on account of stimulation of irritated nerves and the stimulus of gas in the intestinal canal. The codeine may be supplemented by high enemata. Cathartics should be employed only when the escape of flatus shows that normal peristalsis has been established. If obstruction persists after trial of the above measures the abdomen should be opened and explored, and the intestines incised if necessary to decrease their size.

Intestinal Obstruction resulting from Inflammation and Operations.—M. H. Richardson² discusses the question whether the rare occurrence of intestinal obstruction after vaginal hysterectomy is sufficient reason for abandoning that operation. He says that intestinal obstruction, acute or chronic, sometimes occurs as the result of sharp bends or kinks usually due to adhesions deep in the pelvis. The direct causes of such adhesions are inflammations of the pelvic or contiguous viscera, and operative procedures by which a considerable portion of the pelvic floor is stripped of peritoneum. The small intestine is usually affected, though the sigmoid flexure with an unusually long mesentery may in rare instances be involved. A coil of intestine with a long mesentery descends deep into the pelvis and becomes adherent and fixed there. Any variation which may take place in the size, shape, or posture of the pelvic viscera to which the coil has become attached may, by stretching or by twisting the coil, so change its position as to impede the fecal stream. A considerable diminution in the size of the uterus may put upon the stretch a coil adherent to the fundus. A change in the position of the uterus—for example, a gradual retroflexion—may put an adherent coil upon the stretch. A coil adherent to the denuded surfaces of the broad ligament after a vaginal hysterectomy may, as the vaginal wound contracts, be dragged upon until a sharp bend is produced. In the processes of cicatrization and contraction the coil may be partially twisted upon itself until a kink is produced. Two or more coils caught together in a general adhesive peritonitis may be so distorted by cicatricial contractions and by uterine involutions as to produce kinks and flexures, in one or both.

Furthermore, a coil may become prolapsed into the raw wound remaining after vaginal hysterectomy, and be directly constricted there by the process of cicatrization. In rare instances extensive denudations incident to the ablation of large pelvic tumors may leave depressions into which a coil may make its way and become adherent at an unfavorable angle. A kink or flexure, even if extensive, does not necessarily cause obstruction. It is only when the adhesion is so placed that proximal distension results in a kind of valve formation that any impediment to the fecal stream can arise. The obstruction may come on gradually or suddenly. In the former case attention is called to the abdomen by intermittent peristaltic spasms, which at times can be distinctly seen, especially if the abdominal wall is thin. The coil next the obstruction is often so excessively distended that it can be seen and felt as a tympanitic tumor in the lower part of the abdomen. In acute cases which come on without premonitory symptoms, it seems probable that the intestinal stream succeeds without difficulty in passing the bend until, for some reason, the proximal end becomes unusually distended, presses upon the distal portion of the coil, and closes tightly the valve. In abdominal operations the technique should be so shaped as to avoid as far as possible the known causes of adhesion formation. Manipulations must be as gentle as compatible with the necessities of the case. If extensive regions are denuded they should be covered in, if possible, by inverting the edges of the peritoneum and making a smooth surface. In abdominal hysterectomy this can be most satisfactorily done by uniting the folds of the broad ligament and the anterior and posterior uterine flaps. As a post-operative complication, acute obstruction seems to result most frequently from flexures or kinks after vaginal hysterectomies. By this route it seems impossible to prevent the prolapse of intestinal coils into the funnel-shaped raw surface left by the removal of the uterus. Even if the vagina is closed the denuded surfaces remain.

Drainage.—J. Price "drains in all cases where there is leakage of pus or muddy lymph, in cases of ruptured ovarian cysts with localized peritonitis, of suppurative dermoids, and where there is fluid in the peritoneal cavity antedating the operation. He says that gauze simply abstracts fluids and does not permit the elimination of any solids.

M. B. Ward "drains in nearly all seriously complicated conditions of the peritoneum, especially when the intestines are involved, and when the peritoneum is opened through the vagina. While not deprecating other forms of drainage, he favors the use of gauze.

Accidental Ligation of the Ureter during Laparotomy.—Dorff. "Injuries to the ureters during the progress of difficult laparatomies, especially for extraperitoneal tumors, are not rare, but they occur most frequently in difficult vaginal hysterectomies. In the last group of cases this accident is not so serious

as in abdominal operations, when it is generally fatal owing to the escape of urine in the abdominal cavity.

The injuries to the ureters are divided into three classes: (1) the ureter is completely severed; (2) it is only partially severed; (3) it is only ligated. Of the first group a case is described in which during a double salpingectomy a ureter was divided. The corresponding kidney was extirpated and the patient recovered. The author draws attention to a number of similar cases in which immediate nephrectomy was followed by death. This fatal termination is due to an acute parenchymatous nephritis caused by the sudden additional work thrown upon the remaining kidney. It is advised to delay the nephrectomy for two weeks, so that the working kidney can adjust itself to the new condition. The treatment of an injured ureter depends upon the degree of the injury. The author reports a case of ligated ureter in which the ligature remained in position for twenty-four hours, when it was removed and the ureter was found to be uninjured.

Pulmonary Embolism in Gynecological Diseases.—Gessner." Besides inflammatory processes, cardiac changes are of the greatest etiological importance, and new growths, especially myomata and malignant tumors, seem to favor this complication. It should be noted that embolism is rarely observed in ovarian tumors with twisted pedicles, although the blood vessels of such a pedicle generally contain thrombi, and it has also been found that a combination of various factors is required to produce pulmonary embolism.

The prognosis is usually bad; capillary embolism only precedes a fatal pulmonary embolism. The prophylaxis is of the greatest importance, and the character of the pulse should be carefully observed. Absolute rest is indicated as soon as embolism is diagnosed; the medical art is, however, powerless to combat pulmonary embolism if the larger vessels are the seat of thrombi.

Carcinoma of the Breast.—W. S. Thorne¹⁰⁰ reports a death from sepsis after removal of a carcinomatous breast and the axillary contents, in spite of strict precautions.

Inoperable Cases of Carcinoma of the Breast.—G. T. Beatson¹⁰¹ says that all agree that carcinoma is an epithelial growth, which spreads locally and by the lymphatics and is arrested by no known means; that cells known as "cancer bodies" develop; that the younger the patient the more rapidly fatal is the growth, while in many old persons the disease assumes the atrophic form with fatty degeneration of the epithelial cells. The "cancer bodies" are regarded by some as parasitic organisms characteristic of carcinoma, by others as leucocytes or other cells undergoing mucoid degeneration. Beatson accepts the latter view. He made a study of the influence of the ovaries upon lactation in the cow and sheep, and the effect upon the secretion of their removal. He remarks upon the analogy between the local proliferation of epithelium in lactation and that in carcinoma, especially of the breast, the latter being,

however, under control of another organ. He believes that the ovary and testicle have control over the proliferation of epithelium, and that removal of the tubes and ovaries assists the tendency to fatty degeneration which is shown by carcinoma, this effect being most marked in the young. In support of this theory he mentions the yearly growth of horns of the stag, an epithelial proliferation, which does not occur when castration has been performed, and the fact that the horn fails to appear on one side only when the corresponding testis alone has been removed. In connection with the female organs he reports two cases. CASE I.—After a radical operation for carcinoma of the left breast, recurrence in the entire scar, which extended from the axilla to the mammary region, took place. Thyroid tablets had no effect. Removal of the tubes and ovaries, the thyroid tablets being continued, was followed by marked diminution of the growth, which became of a yellowish color and more movable. Eight months after the operation all signs of cancer in the cicatrix and axillary glands had disappeared. CASE II.—The right breast was the seat of a large carcinoma, and enlarged and adherent glands were found in the axilla and high in the neck. The disease was extending rapidly. Removal of tubes and ovaries, with administration of thyroid tablets, was followed by rapid disappearance of pain, which had been intense. Two months after operation a nodule showed, on microscopic examination, marked fatty degeneration of the epithelium. The case seems to be improving. Beatson urges removal of the ovaries and tubes only in inoperable cases.

Cancer of the Breast.—The following operation for cancer of the breast is suggested by R. H. Russell⁴²: Having decided as to the lowermost boundary of the area of skin which is to be removed, make a sweeping curved incision starting from high up in the sternal region, first downward, then outward along the lowermost boundary of the condemned area, finally curving upward again along the posterior fold of the axilla. Start afresh from a little below the middle of the clavicle, make two diverging incisions downward toward the first incision in such a way that the whole of the skin to be removed will be included between these two cuts and the middle portion of the first incision. There will now be marked out two large flaps abutting on the condemned area, both of which are characterized by a curved outline at their periphery. Both of these flaps may now be thrown up, by which will be exposed the whole of the pectoral region from the sternum to the posterior fold of the axilla, and from the clavicle to the abdominal muscles; the skin below may also be dissected up to any extent that may seem desirable. The breast, together with any adjoining tissues, may be easily taken away and the axilla cleared out to the apex. The wound is closed by bringing together the skin flaps, which unite in the form of an inverted T, however much diseased skin may have been removed.

Experimental Investigations as to the Etiology of Sarcomata.—Jürgens' investigations show that certain types of

sarcomata belong to the infectious diseases and may be transmitted, by inoculation, from man to animal. The causes are sporozoa. It is difficult to prove this; then at the present we know of no method by which cultures of sporozoa can be made. Jürgens used for his investigation a case of round-cell sarcoma in which he found large numbers of sporozoa. These he transplanted into the peritoneum of a rabbit, and soon tumors were formed in the mesentery, kidney, and lungs. He was able to transmit these growths in three generations, but found that with each transplantation the virulence decreased, so that finally nine months were required between the time of inoculation and the formation of the tumor. The mode of development is that the infectious material becomes at first encapsulated, then naked protoplasmic cells are found in the mesenteric endothelial cells. These at first are small, but they grow rapidly and soon occupy the whole cell. Next is observed a proliferation of cells which are free from germs; in the first stage the metastases are also without these organisms. These organisms change into conidia, which are round or slightly oval in form, and out of these the enucleated sporozoa are developed. A still later stage of evolution are the so-called swarm spores, which, in the opinion of the author, represent the most infectious type. Similar forms are found in the tumors and also in the liver and kidneys of the inoculated rabbit.

Jürgens has inoculated rabbits with sarcoma melanoticum, and a proliferation in the mesentery took place within two weeks; further transmissions, however, were not successful.

Further investigations included also the epithelioma contagiosum of the chicken, which he says is caused by *gregarinæ*; he accidentally infected his thumb, and in the tumor which formed he found the same germs. In a boy who died of perityphlitis the tumor contained immense numbers of *amebæ*, from which he was able to make cultures.

Bicycling for Women.—Saddles and postures for women on the wheel are treated by R. L. Dickinson."

Development of Girls.—L. H. Corr¹⁰¹ urges better mental as well as physical development of girls. Their mental training should be such as to make them practical, self-reliant, and sensible, as their sexual and maternal natures make them sufficiently emotional.

Injections of Artificial Serum after Hemorrhage.—Intravenous injections of one and a half to two litres of normal salt solution for extreme anemia following puerperal hemorrhages is strongly advocated by C. Maygrier.¹⁰² He says that these are effectual in cases where subcutaneous injections have failed. Inhalations of oxygen are a useful adjuvant. He describes the method of giving the intravenous injections, and records a case in which they were employed with marked success.

Thyroid, Parotid, and Mammary Gland Therapeutics.—Judging from the beneficial effects exerted by thyroid extract upon the epithelium when psoriasis is present, R. Bell¹⁰³ infers

that this preparation may be useful in the treatment of unhealthy conditions of mucous membranes, such as carcinoma of the uterus. Disease of the ovaries seems greatly improved by the administration of parotid glands, and similarly uterine fibroids and hyperplasia and flaccidity of the uterus can be much benefited by the use of mammary glands. These are useful also in ovarian disease. In support of this theory he reports a number of cases treated by the animal extracts mentioned.

Combination of Acids in Gynecological Therapy.—Lauenburg¹⁰⁰ made the accidental discovery that the corrosive action of nitric acid is intensified by following this with an application of carbolic acid. (This is not new—may be found in text books on chemistry.) The surface which is to be cauterized is cleaned with a half per cent solution of lysol; he then applies the nitric acid, and before this has time to act it is followed by an application of carbolic acid. There is an immediate, strong reaction, strong fumes are seen, and a crackling noise is heard. One or two treatments suffice to destroy condylomata, and for the obliteration of angiomas it is said to be superior to any other method. The cauterized surface is afterward dusted with an astringent powder (Care must be taken in bringing together nitric and carbolic acids, as they form an explosive compound.)

Sterility.—In discussing the question of sterility A. D. Wilkinson¹⁰¹ emphasizes the necessity for an examination of the male before submitting the female to a long course of treatment.

Gonorrhea.—G. Pagenstecher,¹⁰² in a treatise presented to the Academy of Medicine of Mexico, says that gonorrhea is a specific infection caused exclusively by gonococci, whose period of incubation usually lasts not more than three to five days, though occasionally as many as twenty. Cases which seem to result in a spontaneous infectious urethritis must be considered as the recrudescence of an old gonorrhea. The disease generally remains localized at its point of entrance, but at times spreads throughout the entire organism, constituting a general infection. The most frequent general symptoms of this form are articular and cardiac, which are not necessarily associated, as the heart alone is often affected. The articular affections that are rebellious and subject to relapses are usually suppurative and demand surgical treatment. Gleet is generally contagious even years after the first infection. The best protectives against gonorrhea are vaginal injections of one-half to one per cent bichloride and 1:2000 permanganate of potash. In respectable society gonorrhea attacks every fifth woman, among prostitutes one out of two. The vaginal discharge of little girls is often of gonorrheal origin, and pus brought into contact with the eyes may cause a specific ophthalmo-blennorrhagia. A white discharge in married women is usually caused by gonorrheal endocervicitis. The most ordinary varieties of gonorrheal infection among married women are the subacute and the

chronic—i.e., the latent form of Noeggerath. A chronic gonorrhea may be recognized by characteristic anatomical symptoms and the history—the residual symptoms of Snger. Clinical study is the surest means of diagnosis. Bacteriology and microscopy are decisive only when they give positive results. The intensity of a pelvi-peritonitis caused by spread of the infection depends on the virulence of the microbes. Its most frequent form is insidious and chronic, subject to relapses with great facility, and may cover several years. The fulminant and mortal forms are rare. The direct causes of the propagation of the infection into the uterine cavity and thence to the peritoneum are generally intrauterine manipulations, child-births, and miscarriages. Before any manipulation of the sexual organs, however insignificant, one must be sure of the absence of latent gonorrhea. In presence of repeated attacks of pelvi-peritonitis the existence of a gonorrheal affection must be assumed. The final result of these successive relapses is a purulent destruction of the tubes and ovaries, whose removal is a benefit, not a mutilation. The prognosis of a salpingectomy improves with the length of time since the peritoneal or primary infection. During the feverish state of a gonorrheal pelvi-peritonitis laparotomy must not be performed except for urgent reasons.

Schulz¹⁰⁰ made investigations as to the presence of gonococci in one hundred and seventy-four prostitutes. He examined the vulva, vagina, urethra, cervix and uterus, rectum and the excretory ducts of the glands of Bartholin. The method of examination was that of Bumm. A large portion of the material consisted of prostitutes. Gonococci were present in one hundred and four cases; they were found most frequently in the urethra and cervix. In many cases in which the urethra and vagina were the seat of purulent secretion no gonococci could be found; they were present in cases in which the clinical picture did not lead to suspect gonorrhea. About two-thirds of all prostitutes suffer from urethral and cervical gonorrhea; the urethral secretion is usually the cause of infection. Diseased tubes were observed in thirty-seven cases; in ten of these gonococci could not be demonstrated.

The local treatment consisted of intrauterine injections of a ten per cent solution of argentannin. After these injections, which must be administered with great care, the secretions rapidly lose their purulent character and the gonococci disappear. In very acute cases this treatment is not advisable. If the adnexa are the seat of gonorrheal invasion operative treatment is the sole therapy; this must be delayed, however, until acute symptoms have passed off; in some cases recovery may be spontaneous.

The technique of obtaining and detecting gonococci in the genito-urinary secretions is described by Caray.¹⁰¹

In "a plea against the meddlesome treatment of acute gonorrhea in women" M. Rosenwasser¹⁰² characterizes the "early and thorough" methods as irrational, inefficient, meddlesome,

mischievous, cruelly painful, severe, and dangerous. He says that local treatment for acute endometritis or salpingitis is of no value.

Washing the uterine cavity with a solution of potassium permanganate, curettement, and irrigation with weak boric acid solution are advocated by J. C. Carrick¹⁰⁰ for gonorrheal endometritis.

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DISEASES OF CHILDREN.

Anencephalous Monster.—A case is reported by A. Brothers.¹

Anemia.—John Lovett Morse^{*} reports a case of secondary anemia in a child 11 months old. The diagnosis was of malnutrition and early rachitis. Milk containing fat 4.00, sugar 7.00, albuminoids 1.50, alkalinity 5 per cent, was given as diet, and two drops of the tincture of chloride of iron administered three times a day. The child is doing well.

Bone and Joint Changes in Connection with Thoracic Disease.—In a clinical lecture Rickman J. Goodlee^{*} concludes that there are at least two conditions included under the name of "*osteoarthropathie hypertrophiante pneumique*," and that those cases which he has met with are examples of that form of osteoarthritis which is associated with chronic septic suppurations, such as gonorrhea complicated with clubbing of the fingers, which probably has nothing to do with the disease. The other class of cases is that in which there is more or less extensive chronic periostitis starting in the neighborhood of the joints, but ultimately involving the whole of the shaft of the bones. It is also accompanied by erosion of the cartilages in parts apparently not subjected to undue pressure. What is the true pathology of these cases, and how far they are essentially connected with thoracic disease, it would be premature to say.

Cholera Infantum.—J. Beverly Deshazo^{*} discusses this affection, giving etiology, diagnosis, symptomatology, pathology, prophylaxis, and treatment.

Dermoid Cyst of the Ovary in a Child of One Year.—J. de Sant' Anna^{*} reports a case in a Brazilian child, successfully operated upon. The tumor was 15 centimetres in its largest diameter, 28 in its greatest circumference, and weighed 970 grammes. The statistics of ovariectomy in early childhood, so far as he has been able to find them, consist of nine cases of ovarian cysts with five cures and four deaths, and four of ovarian tumors with two cures, one death, and a death after a second operation performed two years after the first for a return of the affection.

Diarrhea, Summer.—An editorial^{*} dwells upon the importance of the early abortive treatment in this disorder, as it is the neglected cases (and especially those which have been allowed by the parents to continue some days untreated, under the erroneous impression that diarrhea is a natural or conservative accompaniment of dentition) that prove most intractable and go on to the formation of destructive lesions of the intestinal mucosa. Those cases in which fruits and partially cooked cereals and vegetables act as foreign substances in the intestine, causing disturbance of function without fever, are readily relieved by the evacuation of the offending material by castor oil. Another class, in which the stomachic and intestinal indigestion is accompanied by increased temperature, is also relieved, as a rule, if treated early in its course, by the administration of calomel in small, divided doses, or castor oil if it can be retained. In either of these cases minute doses of opium may be given to control excessive peristalsis. The diet should

consist of the simplest and most digestible articles. Summer diarrheas occur almost exclusively in children who are bottle-fed, and are usually due to impure and contaminated cow's milk. To continue the administration of cow's milk under these circumstances is but to add fuel to the fire, and to furnish a suitable pabulum for the further development of such bacteria as have already been ingested. If there is much vomiting a thorough washing-out of the stomach is indicated. If the temperature is high and the stools foul, with abundant flatus, the colon should also be freely irrigated with a saline solution (one drachm to the pint). In addition to these measures calomel may be given in small, divided doses. Thirst should be allayed by small quantities of cool barley water, egg-albumen water, or simple boiled water. After forty-eight to seventy-two hours some of the malted foods are often useful. If breast milk is attainable, nursing may be begun after twenty-four hours. Bismuth subnitrate is the blandest and most valuable of intestinal antiseptics, but is useless in doses of less than ten or more grains every two hours.

Diphtheria.—Arthur Corda Bell' has an article entitled "A Comprehensive Survey of Diphtheria." He says that formerly, when treated with mercury and venesection, eighty-five per cent of the cases died. At present, under heroic treatment by iron, stimulants, and antiseptics, eighty-five per cent recover. Wyatt Johnston* concludes an article upon bacteriological diagnosis in diphtheria by saying that the culture method enables a positive diagnosis to be made in ninety per cent of all cases when seen early. Absence of bacilli in a case which has lasted four or five days does not prove that it is not diphtheria. Repeated re-examinations should be made in suspicious cases. In severe cases of suspicious angina it is advisable not to delay the preliminary dose of antitoxin. The greatest value of the bacteriological examination is in determining the necessity and the duration of isolation and quarantine, and if cases continue to appear the throats of all persons exposed to contagion should be examined, whether they show signs of disease or not. A swabbing is to be taken post mortem in all cases of death from croup. The patients should not be released from quarantine and the final disinfection of the premises should not be done until the bacilli have disappeared entirely from the affected part. Clothing, furniture, etc., should be disinfected, preferably by steam under pressure, and solutions of mercuric chloride. Cases showing a heavy growth of bacilli, on serum at twenty hours, not quite of the typical Klebs-Löffler type, should be regarded as suspicious and strictly isolated until their non-diphtherial nature is clear. In spite of the use of antitoxin and the great benefits resulting from it, the mortality of diphtheria has greatly increased in Montreal during the past year. The Lancet Special Commission' has given a most exhaustive report on the relative strengths of diphtheria antitoxic serums. The conclusions reached are: that a common standard of estimating the strength of the antitoxic serum should

be agreed upon by the manufacturers ; that no serum should ever be sent out containing less than sixty normal antitoxin units per cubic centimetre ; that antitoxic serum of higher strengths must also be provided to meet the requirements of treatment in more severe cases of diphtheria ; that every sample of antitoxic serum sold should be plainly marked with the antitoxic strength of the serum, the quantity of serum present in the bottle, and the date of issue. The mortality in diphtheria before and since the use of antitoxin is given in the reports of the Glasgow Fever Hospital.¹⁰ In 1893, 153 cases were treated, with 62 deaths, or 40 per cent. In 1894, 245 cases were treated, with 87 deaths, a mortality of 35 per cent. In 1895—this year antitoxin being used—there were 179 cases treated, with 25 deaths, a mortality of 14 per cent. During 1895 there were 29 cases requiring tracheotomy, as compared with 76 in 1891-1892, 42 in 1893, and 23 in 1894. Between 1871 and 1892 the fatality rate per cent of the tracheotomy cases was 79 ; in 1893, 76.2 ; and in 1894, 86.9. In 1895—the antitoxin year—the mortality rate was 34.5 per cent. Howard Van Rensselaer¹¹ considers the symptoms of diphtheria from the standpoint that the disease is an infectious exanthem with well-marked constitutional symptoms and with varied and more or less important local lesions. Adolph Baginsky¹² feels compelled, on account of the erroneous statements of Dr. Joseph Winters recently made, to present certain facts which may be of interest in the pending discussion of the real merits of the new remedy. The writer prefaces his remarks with a description of the methods as they actually exist at the Empress Frederika Hospital. He then goes on to announce some new facts : 1. The cases to-day are just as severe as they have ever been in the history of the hospital. 2. In spite of the malignant type of the cases, the course of treatment since the introduction of the so-called healing serum is so much more favorable that a comparison with former methods is uncalled for. 3. Although the number of cases admitted has been considerably lessened and the cases taken were always of the severest kind, the mortality has diminished and the percentage of the discharged cured has considerably increased. 4. As yet no symptoms which were detrimental to the health of the patient have ever been noticed after an injection of antitoxin at the hospital, whether the remedy was employed as a curative agent or was used in prophylactic doses to confer immunity, except in two cases. 5. It is highly important that in the treatment of diphtheria with antitoxin the physician should first ascertain the quality of the antitoxin used. The serum used in the Princess Frederika Hospital is either Aronson's or Behring's. 6. It is necessary to remember that diphtheria is a disease attended by many grave complications, and that antitoxin is not our sole reliance in such emergencies. If the physician does not properly understand the leading principles of treatment the best remedy we have will be a failure with him. Edward L. Twombly¹³ reports the success of the use of antitoxin as a prophylactic in the Gwynne

Home for Children. Three cases of diphtheria occurred, and the remaining fourteen children were inoculated with the serum. The results were satisfactory; with one exception no further cases occurred, and the local and general irritations following the injections were not a matter of anxiety. The one case in which the disease appeared within twelve hours after the injection was that of a strong, healthy girl of 10 years, who experienced no discomfort with the membrane on both tonsils, and who made an uninterrupted recovery. Henry Koplik " discusses the rapid bacteriological and clinical diagnosis of diphtheria, and describes his especial apparatus and method of procedure. A diagnosis early in the culture growth is in all cases desirable, as after twelve to eighteen hours the streptococci or staphylococci outgrow the Klebs-Löffler bacillus and obscure the diagnosis. The author's method is to force the increase in number of the typical bacilli at the highest temperature favorable to them, 37° to 38° C., and to examine the culture tube two and a half to three hours after placing in the incubator. In order to fix a diagnosis he requires in all cases, in addition to general character of size, etc., (a) an abundant bacterial growth, not isolated bacilli; (b) the characteristic grouping of the Klebs-Löffler bacillus in groups of pairs or fours, side by side, or more so arranged; (c) peculiarities of unevenness in staining with Löffler alkaline solution of methyl blue; (d) the presence of involution forms, club shapes, etc. J. A. Reagan " asks the question, Is antitoxin the best remedy for diphtheria? After examining the reports of different hospitals and what has been said by physicians from all parts of the country, he is not satisfied that the remedy is a panacea for diphtheria. As a rule the advocates of antitoxin have not told us whether the diphtheria reported cured by its use was simple anginosa or malignant. The author has noticed with regret the disposition of some physicians to run after new and untried remedies to the neglect of those that have proved useful and innocent. Brown-Séquard's elixir of life, Manley's grass cure of consumption, condurango as a specific for cancer—who hears of these remedies now?

Dosage for Children.—O. Wolff " comments forcibly upon the lack of accurate information upon this subject, saying that in text books upon children's diseases doses are frequently stated without reference to the age of the child. He considers it most essential that the maximum doses for each year of the child's age should be given.

Eczema of Infants.—J. V. Shoemaker " gives a clinical lecture upon the subject.

Infantile Eczema.—In discussing the causes and treatment of this disorder, Ellice M. Alger " states that the most common form is that occurring during the first year of life on the head or face or about the buttocks. There undoubtedly exists on the part of certain infants a predisposition toward cutaneous diseases, especially eczema. Children with light hair and complexion seem particularly disposed to it, as do those of the Eng-

lish, Irish, and German races. Infantile eczema is apt to occur at the time of teething. The great majority of cases are due to some disturbance of digestion. At birth the infant's stomach is often soured by the quantity of sugar and chamomile tea given to sustain life until the flow of mother's milk begins; too frequent nursing is allowed in order to secure sleep for the mother, and thus the condition is perpetuated. An over-large secretion of milk, requiring frequent emptying of the breast, gives the same result; nervousness and despondency upon the part of the mother often cause a scaly or papular eczema. The early substitution of weak tea and coffee for milk, which often occurs in the poorer classes, as well as the addition of bread, potato, and scraped beef to the diet at the age of 3 or 4 months, is another source of the trouble. Condensed milk, containing thirty per cent of sugar, and many of the artificial foods which contain undigested starch, or an excess of starch converted into sugar, are active agents in the etiology of eczema. In the treatment the cause should always be sought for and the unhygienic conditions corrected. In an acute eczema of a few days' standing a brisk cathartic, such as calomel, will often cause marked improvement; rhubarb and soda mixture is often all that will be required, and sometimes proper food alone, or a little pepsin and peptonized milk, will correct the disturbance. Cod-liver oil and iron are useful in some cases. Weaning is undesirable and only to be resorted to when other measures fail. In the local treatment the crusts may be removed by salicylated oil, and Lassar's paste may then be used to advantage. In acute cases boric acid, ten to twenty grains to the ounce, is added; in less acute cases salicylic acid ten grains to the ounce. Ichthyol, five to ten per cent, is useful in the older cases where the skin is thickened and the scaling extensive, or in a ten per cent aqueous solution is valuable in papular eczema. Applications should be changed two or three times daily, the skin kept covered, and scratching prevented.

Enuresis.—James F. Prendergast¹¹ asks: "Why is it that men of standing will go on advocating the use of drugs for this trouble which they must know are worthless?" The writer has found that cold douching followed by a rubbing down at bedtime gave very good results, though no medicine nor special diet was resorted to. This effect is probably produced by the action of the cold douche on the centre of micturition in the lumbar cord and by the tonic effect on the muscular and nervous systems.

Epilepsy.—Furstner¹² discusses this affection, hysteria in children, and epilepsy developing later in life. He refers to the difficulty experienced in discriminating between hysteria and epilepsy proper. Cases are cited which gave an early history of traumatism or of cerebral changes followed by epilepsy in later years. The question arises whether it is possible to trace a connection between those brain lesions noted in early life and the epilepsy occurring many years later. Were such a relation-

ship proved to exist, the brain lesions of early childhood would assume a new significance. In cases of traumatic lesions a prophylactic treatment might well be established.

Fistula Colli Congenita is the name of an article by König.²⁰

Foreign Body in the Tympanum.—Aimar Raoult²¹ reports a case in which a glass button was removed from the ear of a girl of 10 years. It was found necessary to make an incision and detach the pinna, when the foreign body was found to be firmly embedded in the tympanum.

Infant Food.—R. H. Chittenden²² presents a study of some infant foods in comparison with mother's milk, embodied in the following table. The analyses give the composition of the several foods when prepared for the nursing bottle, with water, milk, and cream added, as specified in the directions :

	Mother's milk.	Malted food.	Nestlé's milk food.	Imperial granum.	Mellin's food.	Peptogen-ic milk powder.
Specific gravity.....	1081.00	1086.00	1084.00	1085.00	1081.00	1082.00
Water.....	86.73	92.47	92.76	91.53	88.00	86.08
Total solid matter.....	13.26	7.43	7.24	8.47	12.00	13.97
Inorganic salts.....	0.90	0.99	0.13	0.84	0.47	0.86
Total albuminoids.....	2.00	1.15	0.81	2.15	2.62	2.09
Fat.....	4.13	0.68	0.36	1.54	2.89	4.38
Milk sugar.....	6.89	1.18	0.84	2.71	3.25	7.28
Cane sugar.....	0.00	0.00	2.57	0.00	0.00	0.00
Maltose.....	0.00	3.28	trace.	trace.	2.20	0.00
Dextrin.....	0.00	0.92	{ 0.44 }	{ 0.58 }	0.00	0.00
Soluble starch.....	0.00	0.00			0.00	0.00
Starch.....	0.00	0.00	1.99	1.22	0.00	0.00
Reaction.....	alkaline.	alkaline.	alkaline.	alkaline.	alkaline.	alkaline.

Gonorrheal Conjunctivitis is considered by L. Lauterbach²³ as to its prevention and treatment.

Heart Disease in Children.—Charles W. Chapman²⁴ gives an analysis of one hundred cases of cardiac disease in children upon whom post-mortem examinations had been made, the proportion of rheumatic and non-rheumatic being, rheumatic fifty-four, non-rheumatic forty-six. Of the rheumatic, the ages of twelve were 6 years or under, while forty-two were between 6 and 12 years of age. In the first attack of rheumatism there may be no morbid cardiac sounds until late in the illness or until after apparent recovery. The causes of heart disease in children are congenital, or rheumatism, chorea, nephritis (usually from scarlet fever), and dilatation from mural degeneration or weakening during acute fevers. Rheumatic inflammation of the heart in children usually affects both surfaces of the pericardium and the endocardium. A history of well-authenticated attacks of pericarditis, the existence of an extensive area of cardiac pulsation, and the absence of grave valvular lesion are data for the presumption of an adherent pericardium. Accuracy of diagnosis should always be aimed at, and in many cases repeated examinations are required to

attain this object. The treatment should embrace hygienic measures, care of the diet, exercise, and care in selecting a school where constant supervision of the child may be maintained. Digitalis is of great value, but should only be used when indicated. Strophanthus, convallaria, cetus, and strychnine are also useful remedies.

Hemiplegia complicating Whooping Cough.—H. A. Royster⁴ reports a case of this rare complication in a child 10½ years old.

Hip-joint Disease.—W. D. Foster²² gives a general description of this affection. He has found that most boys with this ailment have phimosis, and that in a large proportion of girls affected with hip-joint disease there is found vulvitis and vaginitis, with or without discharge.

Agostino Paci²³ writes of the Lorenz method for the reduction of luxation of the hip, claiming that he himself originated the method in 1888.

Hydrocephalic Idiocy.—Frederick Peterson²⁴ divides hydrocephalus into two classes, primary and secondary. The true pathogeny of the first group is unknown. Secondary hydrocephalus is caused by obstruction of the veins of Galen or by obliteration of the foramina of Monro, Magendie, or Mierzejewski. Common causes are tumors of the cerebellum and meningitis. In the way of treatment various operative procedures have been tried, but have been dropped from use. Trephining of the occipital bone three-fourths of an inch below the superior curved line to the right of the middle line, with subsequent enlargement of the opening downward, and the insertion of a probe into the fourth ventricle, is an operation which has been successfully tried and deserves more extensive trial. Lumbar puncture seems to be a simple and harmless procedure, as well as a powerful means for reducing intracranial pressure. Several cases of recovery by means of this measure have been reported.

Hydrocephalus and Chronic Encephalopathy consecutive to Gastro-enteritis in a Nursing Infant.—M. Marfan.²⁵

Hygiene of Infancy and Childhood.—T. M. Madden²⁶ says that every infant should, except under rare circumstances, be nursed by the mother. When a child is to be fed by hand the best nutriment is that which comes nearest to its natural food, the most generally available substitute for which is the properly prepared first milk of a healthy cow. Artificial milk foods are handy to use and cheap, but are deficient in elements essential to child nurture. Some of these, not being malted, are positively injurious. The personal cleanliness of the child and its surroundings are very important. The nursery should consist of two rooms, and should be sunny, spacious, and well ventilated. In regard to sleep, no better rule can be adopted than that when fatigue is experienced rest should be allowed. Early rising in children should be encouraged. For the first years of life the food should be such as may be easily digested, and the child should live in a pure atmosphere. Even in infancy natural

propensities and mental disturbances manifest themselves, and good dispositions are capable of being cultivated and evil ones of being restrained even in the cradle. Under no circumstances should children be frightened by ghost stories or sent to bed in the dark and then punished for crying. The deterioration of physical and mental stamina often observable is mainly due to the fact that a large part of the first ten years of life, which should be primarily devoted to religious or moral as well as physical training, is now given up to the development of the mental powers.

Icterus in a Child of Five and a Half Years.—Lesions of the liver; death. A case reported by Bernard Frenkel and Weinberg."

Incontinence of Urine.—A. Cullere," having treated twenty-four cases by hypnotic suggestion, with the result that twenty were cured, two improved, and two not improved, gives a detailed report of all. Essential incontinence of urine in children and adolescents is a neuropathic symptom which is usually benign, but may be the precursor of nervous disorders such as neurasthenia, hysteria, hypochondriasis, and mental obsession. The subjects belong to families with a neuropathic history of some kind. Incontinence may be hereditary. The mechanism of the production of this morbid phenomenon appears to be a disorder of the centre for micturition, resulting in involuntary urination; this in its turn affects the imagination of the patient, and by auto-suggestion and dreams increases the frequency and severity of the trouble. Hypnotic suggestion is the most rational treatment for this affection, and results in a cure in more than three-quarters of the cases upon which it is tried. The degree of hypnosis need not go beyond a state of psychic passivity with the eyes closed. It is particularly efficacious in older children. Medicinal and surgical treatment, when beneficial, really acts by indirect suggestion.

Intestinal Worms.—J. Leffingwell Hatch " gives a general description of the various forms of intestinal worms. Regarding the treatment of the parasites, he believes that children affected with them need a tonic and a general improvement in their hygienic condition. Sweets should be prohibited and saline foods recommended. For thread-worms a rectal injection of the infusion of quassia is effective. Santonin is the sovereign remedy for round-worms. Male fern is the most reliable vermifuge for the tape-worm.

Intussusception.—Mortimer Brown' reports two cases in which good results were obtained by persistent use of injections, consisting of warm salt water in one case, of milk in the other.

Malnutrition in an Infant.—George M. Tuttle" reports a case of emaciation almost approaching marasmus, in which no cause could be found for the condition until an investigation of the mother's milk showed an almost normal specific gravity but only one and a half per cent of fat. Considering the case as one of fat starvation, cod-liver oil plain, gtt. x. three times

a day, was given, and after a week increased to gtt. xx. t.i.d. and held there. Improvement began at once, and the child is now healthy and good-natured. An interesting point is that a thrush stomatitis probably infected the parotid gland through Steno's duct and an abscess ensued, and it emphasizes the importance of thorough and frequent cleansing in cases of stomatitis.

Middle-ear Disease.—An extensive article by Richard Frothingham¹ deals with the importance of an understanding of middle-ear disease by all practitioners, and gives a report of some cases in which inexcusable errors have been made. Besides causing death and destroying the organ of hearing, ear disease may result in permanent paralysis, disturbances of co-ordination, or it may affect the organs of sight, taste, and smell. In order to emphasize the importance of disease of the middle ear, the author goes on to consider the anatomical relations of its parts. Excluding chronic middle-ear catarrh, the results from treatment of middle ear disease are most satisfactory and brilliant. Chronic middle-ear catarrh usually comes on slowly, and the loss of hearing is so gradual that it is quite imperceptible to the patient. Usually all that can be done is to get back what has recently been lost and to help the patient keep what hearing still remains. Statistics show that about two-thirds of all ear diseases are of the middle ear, and that about thirty per cent of all ear diseases are suppurative; also that an average of about seventy per cent of all ear diseases treated in ear hospitals are affections of the mastoid.

Milk.—W. H. Wells² writes of acute milk infection, or cholera infantum which is caused by the poisons produced by the various forms of pathogenic milk bacteria, and always found in infants fed on artificial foods containing milk, never in babies fed entirely from the breast. Suspension of milk diet and all substances containing it, abstention from all food for twenty-four hours, giving hourly cold sterilized water into which from fifteen to twenty drops of good brandy or whiskey are dropped, are the first steps in the treatment. The intestines may be washed out with injections of cold or lukewarm sterilized water in copious amount, mixed with some alkaline powder or an antiseptic, such as subnitrate of bismuth or some of the coal-tar antiseptics. These may be repeated every hour or two, unless the child is very weak. The skin should be sponged and an ice cap placed to the head in the early stages of fever. Later, during collapse, it must be placed in a hot mustard bath. Directions are given for the regulation of feeding when the child begins to improve, and the medicinal treatment is given but is said to be far from satisfactory. Rowland Godfrey Freeman³ describes an apparatus of his own devising for the purpose of low-temperature pasteurization of milk at about 68° C. (155° F.), which consists in a modification of his pasteurizer for sterilizing milk at 167° F. He gives directions for its use, and concludes by saying that pasteurization at between 65° C. (149° F.) and 70° C. (167° F.) is recommended, because:

1. It destroys almost all the ordinary air bacteria which occur commonly in milk. 2. It destroys the bacillus tuberculosis, the bacillus typhosus, the bacillus diphtheriæ, and many other pathogenic bacteria. 3. It causes no change in the taste of the milk, and avoids those chemical changes in milk which are produced by higher temperatures. 4. It is possible to pasteurize accurately at this temperature without the use of a thermometer.

Mortality of Infants in Mining and Populous Districts.—T. H. Redwood "believes that the high mortality is chiefly caused by overcrowding in badly ventilated, badly drained, and damp houses; also by carelessness and ignorance on the part of the mothers, and by artificial feeding and infectious diseases.

Mortality among Children, Medical Treatment, and the Causes of Death, forms the subject of a paper by Wolffberg, "who says that in Prussia there are no scientifically kept statistics upon the causes of death.

Nasal Septum, Pathology and Treatment of Deviations and Spurs of, in Young Children.—E. J. Moure "says that most of the deformities of the septum observable in children under the age of 7 years are not usually deviations in the true sense of the word, but more often simple displacements with partial thickening.

Nursing Infants, Observations upon the Amount of Nourishment taken by them.—De Feer."

Ophthalmia.—Sydney Stephenson "gives an account of an outbreak of ophthalmia in a poor-law school, in which is emphasized the value of prompt isolation. C. Abadie "believes that greater care should be exercised in the treatment of the eyes of newly born infants, as the methods used for the prevention of the trouble not infrequently result in causing an inflammatory process. Disinfection of the vaginal passages, and prompt cleansing of the infant's eyes with boiled water or a boric acid solution, should be a sufficient protection.

Otitis.—Giovanni Grixomi "reports a case of purulent otitis in which a bacillus similar to the Klebs-Löffler was found. Injection of the antidiphtheritic serum resulted in a cure and caused no complications of any kind.

A. T. Muzzy "says that otitis media in its acute form should not be mistaken for meningitis, although it must be borne in mind that an acute otitis media may bring on a meningitis. The result of an attack in healthy persons is good, and speedy even though the seizure has been severe. But in strumous, unhealthy children subacute attacks, even, will require great patience and care to bring them to a successful issue. This is especially true where the cases are complications of, or closely secondary to, the exhaustive fevers. In the treatment of this disorder, among other methods noted by this author is puncture of the drum. This is a valuable procedure, but if the patient is a sensitive child, with an ear exquisitely tender and with much swelling of the external canal, it will be far safer and as effective to rely upon leeches, heat, and cathartics. The proximity of the internal carotid should not be forgotten

when puncturing. D. A. Hengst " says that in typhoid fever, and especially during the third and fourth week when the secretions of the nose and the naso-pharynx are in an abnormal condition, the microbes found in acute otitis media—viz., the streptococcus, pneumococcus, pneumobacillus, and staphylococcus—multiply very rapidly, and it is therefore of the highest importance that the nose and naso-pharynx be kept thoroughly antiseptic. The exciting cause may be exposure of the side of the head to a draught. The symptoms and treatment are the same as in other cases.

Ovary, Hernia of, in an infant, with torsion of the pedicle.—C. B. Lockwood " reports the case, and says that the ovary and tube were too much damaged to be returned into the abdomen, and were removed. The patient recovered.

Paralysis of the Sixth and Seventh Nerves occurring in a Patient with Whooping Cough.—F. A. Craig " describes the case, and thinks that the condition was probably due to rupture of one of the cerebral veins during a paroxysm of coughing.

Patent Meckel's Diverticulum.—L. A. Guthrie " reports a case of patent Meckel's diverticulum into which the posterior or distal wall of the ileum became intussuscepted, forming an umbilical tumor, followed by death. The author adds the result of the necropsy and some general remarks on the subject.

Pelvic Injury.—Herbert W. Page " gives a clinical lecture on a case of fatal pelvic injury in a child. In this case the urethra was ruptured, and the neighboring soft parts were extensively lacerated by displaced bone, and blood was effused in large quantities into the space between the bladder and the pubes. This cavity became distended with blood, and into it a catheter was passed when it was believed to have been passed into the bladder.

Phrenoglottic Spasm in Croup.—G. Variot " believes that too much stress has been laid upon the membrane as cause of the spasm, whereas it is a fact that the cases of diphtheria accompanied by the greatest amount of membrane are by no means always those in which there is the greatest amount of spasm. Yet it certainly often plays an important part. In the absence of any other explanation we must assume that there is a special hyperexcitability of the laryngeal nerves in some children. The spasm of the glottis is very apt to come on at the time when the membranes are becoming detached. A late spasm noticed several days after the removal of the tube is due to laryngeal ulcerations which are not infrequent after intubation, or to broncho-pulmonary lesions coincident with the croup.

Pneumococcus Infection.—John Lovett Morse " reports a case at length in which the history and autopsy showed that the sequence of events was—pneumonia, pleurisy, pericarditis, passive congestion, peritonitis. The most interesting points in the case were the long persistence of virulent pneumococci in the organism, as shown by the development of an acute pneumococcus peritonitis as the result of the lesion produced by the

trocac, and the disproportion between the physical signs and the pathological conditions of the thorax.

Polyarthrititis of Scarlet Fever.—Henry W. Berg. "Four varieties of polyarthrititis occur as a complication of scarlet fever or other acute infectious diseases. 1. Cases in which there is a simple infection of the joint structures, without effusion of serum and with little swelling. 2. Cases in which the clinical symptoms are chiefly those of synovitis. 3. Cases in which the arthritis consists of a simple or (later) a purulent synovitis, accompanied by or terminating in osteitis with or without necrosis of the affected joint ends of the bones. 4. Cases in which there is from the beginning a suppurative polyarthrititis with purulent infection of even the shafts of the bones and rapid destruction of all the joint structures. It appears probable that the disease is not produced by the specific germ of scarlet fever, but is the result of mixed infection. The disorder usually occurs during desquamation or later. Many writers have considered these joint complications of scarlet fever as identical with rheumatism; but there are many points of difference, as in polyarthrititis of scarlet fever the large joints are immune and the infection may affect all the joint structures and much more frequently terminates in purulent arthritis and necrosis of the joint ends of the bones. The writer has never observed any clinical symptoms of a lesion of the heart in his cases, and they were not benefited by the use of salicylic acid. A large proportion of the cases of the first and second variety recover. The fourth variety is almost uniformly fatal. The third variety may terminate in complete recovery or in chronic joint disease. As the germs causing this disease probably enter the system from the throat, nose, and pharynx, scarlet-fever throat should be irrigated whether true diphtheria is present or not.

Pott's Disease.—John C. Schapps "describes some apparatus for the treatment of this disease. The controlling principle in the treatment is rest, or relief from pressure and motion. Prolonged recumbency upon a surface fitted to the patient, with pressure and traction, is beneficial and not harmful—not even uncomfortable. A wheel cot is described upon which patients can lie and yet enjoy the air and sunlight. Its construction is fully described, as well as the arrangement in it of the patient, the clothing to be worn, care to be given, etc. The principles of treatment of the deformity are discussed and the evils of constricting apparatus shown. The author, in the treatment of Pott's disease in the upright position, uses posteriorly the Taylor brace with some slight changes, and anteriorly a rigid brace of his own devising, which is fully described. J. W. Macfarlane "says that it is now generally admitted that this disease is due to the tubercle bacillus. The predisposing causes are heredity, injury, bad hygienic surroundings, and age. It may occur in the wake of one of the exanthemata. It is essentially a disease of childhood, those between 2 and 10 years being most susceptible. In adults it may result from injury. The author gives the symptomatology and the methods

of examination. The all-important part of treatment is to secure, as near as possible, absolute rest to the spinal column. If the disease be recognized early absolute rest in the dorsal position upon a flat mattress may be all that is necessary for a time, but the position becomes irksome and the already enfeebled constitution is apt to be undermined by confinement. The Sayre plaster jacket is the best resource, as being light, inexpensive, and porous. The length of time that a jacket is to be worn will vary according to the case, but as a rule the spine should receive some sort of support for a year or eighteen months. Extension and counter-extension may be required in some cases. Treatment of abscesses is spoken of; also the necessity for hygienic measures.

Puncture of the Subarachnoid Space.—Augustus Caillé,¹ in an article entitled "Tapping the Vertebral Canal; Local Treatment for Tubercular Meningitis," reports twenty-one cases. The cerebro-spinal fluid was examined for sugar, albumin, and bacteria, and the clinical diagnosis verified by autopsy whenever possible. In most of the cases the pressure of the fluid was such as to force out the piston of the syringe; in only ten did the temperature rise after the puncture; no anesthetic was employed and no difficulty was encountered. In three cases of tubercular meningitis, bacilli were found; acute mania, one-half per cent of sugar, a trace of albumin; cerebro-spinal meningitis with broncho-pneumonia, one-quarter per cent of sugar, trace of albumin, the pneumococci; sarcoma of kidney with broncho-pneumonia, one-eighth per cent of sugar and the pneumococcus; tubercular meningitis, a trace of sugar and no bacilli; broncho-pneumonia and convulsions, one-quarter per cent of sugar, albumin present, tubercle bacilli; diphtheria of pharynx, the staphylococcus pyogenes aureus; pneumonia dextra, three per cent of albumin and the pneumococcus; two cases of acute hydrocephalus, traces of sugar and albumin; hydrocephalus, negative; acute eczema and nephritis, trace of albumin and streptococcus; tubercular meningitis, negative; tubercular meningitis, traces of sugar and albumin, and the tubercle bacilli; tumor of brain, one-fifth per cent of sugar, a trace of albumin; diphtheria of nose, the streptococcus; chorea, negative; pertussis, negative; tumor of Pons, negative. The author says that liquid may be injected into the spinal canal as well as removed from it, which he has done in two cases in the hope of influencing the course of an otherwise incurable tubercular meningitis. So far he has had no favorable result, but thinks that a more thorough washing of the subarachnoid space is necessary in order to make an impression.

A. H. Wentworth¹ concludes a report of twenty-nine cases with the following summary: 1. The normal cerebro-spinal fluid contains neither cells nor fibres and is perfectly clear. 2. In cases of meningitis the cerebro-spinal fluid is invariably cloudy when withdrawn. The degree of cloudiness is to some extent proportionate to the amount and character of the exudation in the meninges. 3. The cloudiness is caused by cells.

The character of the cells differs with the variety of the meningitis. After withdrawal more or less fibrin is formed in the fluid. The presence of these cells and fibrin is pathognomonic of inflammation in the meninges. 4. The cloudiness is oftentimes so slight that close observation is necessary to detect it. 5. The operation is not difficult to perform on infants and children. It is not dangerous if strict cleanliness is observed. 6. The differential diagnosis between the various kinds of meningitis can be made by microscopic examination of the sediment, by cultures taken from the fluid, and by inoculation experiments. 7. Inoculation experiments afford the surest means of determining tubercular meningitis. It is of value to distinguish between the varieties of meningitis, in order to determine if tubercular meningitis is recovered from. 8. In the normal fluid a faint trace of albumin is usually present, about one-fiftieth of one per cent, or less, by quantitative analysis. In meningitis the amount of albumin is increased, and has varied from one-thirtieth to one-tenth of one per cent. 9. In one case a diagnosis of general infection with the staphylococcus pyogenes aureus was made from cultures taken from the cerebrospinal fluid. Charles Godwin Jennings' reports a case in which too much force was accidentally used in depressing the needle, which broke deeply in the tissues of the back. A deep incision and search failed to find the needle. The temperature rose to $104\frac{1}{4}^{\circ}$ and the pulse to 136 a few hours after the operation. A second puncture was made the next day, after which there was a partial return to consciousness and a general temporary relief of the pressure symptoms. Death occurred two days later. The pneumococcus in large numbers was found in the fluid.

Pseudo-membranous Angina and Laryngitis with Streptococci; Tracheo-bronchitis with Abundant Secretion; Intubation—Tracheotomy because of Non-evacuation of the Pus by the Tube; Cure.—M. Ghika "reports a case in detail. Tracheo-bronchitis accompanied by muco-purulent secretion and phrenoglottic spasm would seem to call for tracheotomy rather than intubation. The calibre of the tube is not of sufficient size to allow of complete evacuation of the pus.

Rachialgia of Hysterical Origin simulating Pott's Disease.—F. Gendron and P. Brunet "report this interesting case of a girl of 9 years.

Rachitis.—A. Jacobi, 'in treating of the blood and circulation in rachitis, says that anemia, or rather hydremia, is common. Luzet found a diminution of red blood cells within three weeks from 2.11 to 1.6 millions; Von Jacksch, within three months from 1,600,000 to 750,000. Koch and Schlesinger met with an average number of two and a half million red cells in a cubic millimetre of blood. In all these cases the percentage of hemoglobin seems diminished 30 to 60 per cent and the number of leucocytes increased 25,000 to 26,000. Large tumefaction of the spleen which is often observed in rachitis will result in leucocytosis. Grave rachitis, in the author's experience, has several times been complicated with pseudoleukemia. In

rachitis the heart is usually of normal size while the arteries are large; the latter condition results in a slackening of the circulation and contributes to swelling of the viscera. It appears to be the cause of a cerebral murmur. Hypertrophy of the heart is apt to be diagnosticated in rachitis simply because, the thorax being out of shape, the heart touches a larger surface than in a normal elliptical chest. S. Delmont-Bebet" reports cases of kyphoses of rachitis and adolescence, and speaks of the necessity of a careful diagnosis between kyphosis and Pott's disease. In the former there will be the signs of rachitis, such as deformities of the limbs, large skull, etc. It occurs most frequently in young girls at the age of puberty, but Pott's disease is also apt to appear at that time. The latter is usually accompanied by other tuberculous lesions, ganglia of the neck, pains in various parts of the body, paraplegias, trophic disturbances. An abscess in the iliac fossæ or upper part of the thigh would settle the diagnosis. The shape of rachitic kyphoses is elongated, rounded, and includes as many as five or seven vertebræ; Pott's disease, in the beginning at least, causes an angular, sharp prominence, as if one or two vertebræ had been pushed backward out of their natural position. This deformity may become rounded in shape later in the disease by the partial or total disappearance of some of the vertebræ, but at this stage the presence of an abscess or of paraplegias will determine the diagnosis. In Pott's disease the rachis is immovable, in such a manner that a child in picking up an object from the floor will do so from either side or between the knees, but never directly in front of him. In kyphosis the vertebral column remains movable. There is no pain on pressure upon the spinous processes in kyphosis. Children suffering from tuberculous affection of the spine must be kept in a recumbent position for one or two years, whereas in the deformity due to rachitis or adolescence the patients are allowed to walk, to take sea baths, etc. It is therefore important, from the standpoint of treatment, that the nature of the disease be recognized. A. B. Marfan" gives a summary of the treatment for this condition, which includes regulation of diet, prolonged rest upon a hair mattress, ventilation, country or sea air, and hot salt baths (which can be given at home two or three times a week). The medicinal treatment consists of cod-liver oil, calcium phosphate, and phosphorus. Electricity is advocated by Italian physicians. In regard to the bony deformities, hygienic and orthopedic measures alone should be tried before the age of 5; after that period surgery, if necessary, may be called in to assist. Felix Regnault" says that in a previous article he demonstrated that in rachitic children the cranium is not more developed than in the normal, but merely appears to be because of the relative lack of development of the body. He also showed that rachitis led to broadening of the skull. In this article he extends his studies to the face, which is small by comparison with the cranium. The superior maxilla is atrophied in the transverse diameter of its lower portion. The

canine fossa is depressed and the alveolar process of the incision pushed forward. This atrophy caused marked modifications in the shape of the orbit and the nose, the orbits being increased in size. Ed. Mey " says that, although the question of feeding is a far more difficult one in summer than in winter, it was noticed in Riga that the disease was less prevalent at that season than in winter. He therefore argues that the etiological factors are, primarily, confinement, bad air, and crowding ; secondarily, poor nourishment and heredity.

Rigors in Children.—Gerald R. Baldwin " roughly classifies the cases in which rigors are apt to occur into the following groups : acute abscess, cellulitis, hyperpyrexia, acute specific fevers, complications of mastoid suppuration, acute arthritis, acute periostitis, and acute epiphysitis. Rigors are very rare in children. It may be safely concluded that convulsions very rarely take the place of rigors even in infants. Rigors are not of very great clinical value in studying the diseases of childhood.

Secondary Changes in Primary Optic Centres and Paths in Congenital Anophthalmia and Atrophy of the Bulb in New-born Children, forms the subject of an article by O. v. Leonoeva."

Scarlatina.—Joseph Arnaud " describes a case of non-complicated scarlatina. with hyperpyrexia during desquamation, treated by cold baths. The case is interesting as showing the existence of a malignant late form of scarlatina manifesting itself by a high temperature and nervous symptoms which cannot be explained by an appreciable complication. Bouveret explains these phenomena by the action of toxins which affect the heat centres. Quinine has little influence upon this hyperpyrexia, but it yields to the influence of cold water. Baths at 64° to 68° during desquamation and continued to the point of chilling produced no renal symptoms. W. R. Dunham " describes the nature, materies morbi, causation, and treatment of the disease. M. J. Comby " says that relapses in this disease are less rare than in measles. They have been especially noted in the case of children from 4 to 14 years of age. The relapse may come on a few days after the first eruption or ten, fifteen, or thirty days after. It may be light or so severe as to be fatal. The author quotes and describes cases.

School Hours.—William Meacher " asks how many grown persons can go into a crowded room and study six hours a day ; or, if they are able to do it in spite of the drowsiness and stupor that come upon them, how long will it be before the health suffers. Few understand how the child's nature rebels against the confinement and restraint of the school room if kept in too long, and how a distaste for books and study may be engendered. If the hours could be reduced to about four, two in the forenoon and two in the afternoon, children would learn more and with greater relish. There should be more teachers and fewer pupils for each teacher. That means more expense and less " machine-made " education ; but life has no higher

duty than the education of the children, unless it be the preservation of their bodily and mental health.

Skin Condition in a New-born Infant.—H. Braems "describes a peculiar condition seen in an infant. The child was enveloped in a thin membranous sac whose yellowish-brown color looked as though it was stained by a mixture of meconium and amniotic fluid. The sac fitted snugly and was adherent except at points, corresponding to natural folds of the skin, where rupture had occurred, partly owing to movements of the child; here the normal epidermis was visible beneath, even bulging outward in some places. Attempts to remove shreds of the membrane seemed to cause pain. In endeavoring to explain this phenomenon the author excludes amniotic membrane, dermatitis exfoliativa and desquamation following scarlet fever *in utero*, and concludes that the condition was due to an abnormal proliferation and desquamation of the cells of the corneum. The process of desquamation was completed in a fortnight. No similar case has been reported.

Spastic Paralysis of Childhood.—Umberto Gabbi "reports three cases occurring in the same family. All three began to show signs of the disorder at the age of 5. The details are of interest, but too long to be here reported. The author thinks that the history of insanity in the family of the mother may in large measure account for the causation.

Spine, Lateral Curvature of the.—A. B. Judson "says that as curvature and rotation are diminished when the weight of the body is removed from the vertebral column, the weight should be removed by causing the patient to lie down or by suspending the body by the hands. The more time given to these procedures the greater is the advantage derived while the patient is growing. Fatigue or general weakness increases the deformity; hence throughout the growing period over-exertion should be avoided, and the recumbent position should be often taken and for long periods. It is found that the chest is expanded during suspension, which if persisted in will have a lasting effect upon the size of the thorax and lungs. A brace is powerless to reduce rotary lateral curvature.

Spurious Traumatic Meningocele and its Operative Treatment is considered by O. Rahm."

Stammering, due to Adenoid Vegetations, cured by Removal of the Growths.—G. Hudson McKuen."

Stomatitis.—Lucien Beco, "in considering diphtheritic stomatitis of infancy, concludes that: (1) it is of somewhat frequent occurrence and constitutes a separate affection from aphthous stomatitis; (2) it consists of a fibrinous infiltration in plaques of the buccal mucosa—this is produced by the action of various micro-organisms, among which the most frequently occurring are the staphylococcus aureus and pyogenes; (3) the affection is not grave, but may produce permanent cicatrices; (4) it is contagious.

Stridulous Respiration in a New-born Child.—G. Variot "reports the case of a child of two months whose inspiration was

marked by stridor, the thorax assuming the same form that it does in cases of phrenoglottic spasm. The removal of adenoid vegetations from the pharynx caused no improvement. Intubation caused immediate cessation of the stridor, which, however, reappeared upon withdrawal of the tube. The spasm would seem to depend in some way upon the muscles of the glottis and the diaphragm, but its origin is unknown.

Subcutaneous Injections of Artificial Serum in the Gastro-intestinal Infections of Nursing Infants.—E. Thiercelin " says that really remarkable results have followed this procedure. The serum used is a solution of sodium chloride 7:1000; or Hayem's serum, sulphate of soda two and a half drachms, sodium chloride one drachm fifteen grains, and distilled water one quart. These must be sterilized. The injection may be made in the skin of the abdomen or thighs. In acute gastro intestinal infection at least one ounce a day should be injected, to replace the fluid taken from the vessels by the intestinal flux. In the chronic forms it is better to give daily injections of small doses, one to one and a half drachms.

Syphilis.—Hochschrger " says that in one hundred and seventy-two cases of inherited syphilis there were forty-six children in whom enlargement of the liver was clinically demonstrated, the majority of the cases being under 6 months old. Thirty were cured; sixteen died. J. Garel " reports two cases of lesions in the naso pharynx in which an error of diagnosis was made. The symptoms were those of adenoid vegetations, nor was there any ulceration or redness or swelling of the mucosa to suggest the real state of the case. Dysphagia was present in the second case and had lasted for six months; the prolongation of this condition is an almost certain sign of syphilis. The author cites these cases as a warning to others to make the most careful examination possible of all parts of the nose and throat in similar cases, as they may find pseudo-adenoid gummata. Potassium iodide will work wonders and the patient be spared a useless operation. Rodolfo Battistini " reports three cases of hereditary syphilis which all demonstrate the existence of a poison rather than a localization of the disease. In one case this poison so completely arrests the development of the whole organism as to reduce the child to the level of a mere animal; in another it arrests the development of such tissues as were incompletely developed at the time of birth; in the third it began to produce anatomical degeneration, but at the same time so lowered the general vitality that the infant died. Abner Post " discusses the intrauterine infection of this disease, giving the history of the various theories upon the subject and quoting cases. He considers the following statement as embodying our present knowledge and its limitations: 1. It is universally admitted that there is normally no direct communication between the maternal and fetal blood. 2. There is proof, however, that certain contagious diseases are conveyed to the fetus *in utero*. 3. In some of these cases it is shown that hemorrhages have destroyed the original structure

of the placenta and opened a path of communication. 4. It is then no longer possible to say that intrauterine infection is impossible in syphilis. 5. Clinical observation shows that intrauterine infection does take place in syphilis. 6. Whether such infection is invariable or what its limitations are we do not know. George F. Harding " reports a case from which he draws the conclusions (1) that in this case a short treatment of the mother (supposed to be mercurial) was sufficient to render the child free from signs of early hereditary disease, although the conditions were most unfavorable—that is, both parents were syphilitic at or near the time of conception; (2) that the child was not protected from subsequent contagion by the presence of early syphilis in father and mother; (3) that the child was inoculated with a primary lesion by her mother—who had herself contracted the disease from the father previous to the birth of the child—and showed signs of an acquired syphilis; (4) that it is necessary to warn subjects with active syphilis of the danger of accidental contagion, not only to those with whom they may be brought in contact, but to their own children as well.

Tetanus Neonatorum.—Edward Anderson " believes that the disease enters the system through the navel as soon as the cord begins to separate, as a result of uncleanness, especially in hot weather. Cleanliness and antiseptics should be used in every case during separation of the cord.

Thrush in the New-born.—Julius Grosz " considers the pathogenesis, prophylaxis, and therapy of this condition.

Thyroid Extract in the Treatment of a Goiterous Cretin, with Marked Improvement of the Patient, is reported by William Rushton Parker."

Tonsillitis in Children.—Leo Auerbach, ' in a consideration of this affection, speaks of the differential diagnosis between it and diphtheria. A true diphtheritic exudation may commence at the orifices of the crypts of the tonsil, but within twenty-four hours will extend to the pillars, velum, or pharyngeal wall. The exudate of tonsillitis is thin and not materially raised above the surface, is white, translucent, and clean-looking, in contradistinction to the exudate of diphtheria, which is thickish, protruding, and of a dirty-yellow color. The former is punctated, two or more puncta sometimes being joined by the edges. The invasion is more sudden, the temperature higher, the redness of the throat more diffuse. The spots can often be removed from the crypts; sometimes gargling with an antiseptic will remove a doubtful-looking layer of mucus. The bacillus of diphtheria, if in large numbers, will settle the diagnosis.

Torticollis.—Arthur J. Gillette " reports three cases in children, due to adenoid vegetations and chronic hypertrophy of the tonsils. In two the trouble was congenital. Treatment of the cause of the trouble brought about a marked improvement, but long continued tonic spasm of the muscle probably caused a structural change in the contracted muscle, necessitating an

operation for the obtaining of a complete cure. In the third case removal of the vegetations cured the deformity in a few days.

Tracheotomy.—Lewis Anderson¹ reports a case in which this operation was performed upon a child 38 days old. The tube had to remain *in situ* fifty-two days. The author believes an edematous condition of the larynx was the occasion of the asphyxia which rendered the operation necessary, and that it was caused by a sudden change in the weather from heat to cold.

Tracheotomy and Intubation in Croup.—Castelain² compares the difficulties attending the two operations, the results obtained, and the statistics. In conclusion he states that if his own child were to develop croup he would first perform intubation; but if the operation were not followed with sufficient rapidity by marked quieting of the respiratory trouble, and if he heard sounds indicative of a false membrane below the larynx, he would perform tracheotomy. Both operations are useful, each having its own indications, nor should they be considered in the light of rivals. He reports in detail ten cases of intubation for croup with six cures and four deaths.

Tuberculosis of Mouth, Ganglia of Neck, and of the Intestines in a Child of Sixteen Months.—A. B. Marfan³ reports a case of what he calls "tuberculosis by ingestion," caused either from the tubercular nature of the mother's milk, from infected cow's milk given by a neighbor, or from objects which the child put in its mouth which were laden with germs. Out of one hundred cases of tuberculosis occurring before the age of 7 years, eight were undoubtedly due to the ingestion of the contagious elements. Any case of diarrhea in a nursing infant which lasts uninterruptedly for more than three weeks should cause a suspicion of intestinal ulceration, especially if it be accompanied by persistent meteorism.

Tuberculosis of the Myocardium.—Marcel Labbé⁴ gives the results of the histological examination of the myocardium in cases of tuberculosis of that region. The symptoms accompanying the condition, when there are any, are abnormalities in the cardiac rhythm, as tachycardia and weakness; dyspnea, with cyanosis and palpitations and attacks of syncope. This form of tuberculosis is rare, only thirty-eight well-authenticated cases having so far been reported.

Tuberculosis of Genitals in Children.—Paul Maas⁵ speaks of the rarity of this affection in children, especially in those of the female sex. He discusses the primary and secondary forms, quoting cases.

Tubercular Abscess of the Brain.—A case is reported in a boy of 10 years by Samuel S. Adams.¹

Vesical Calculus in Childhood.—E. Loumeau⁶ reports a case. This affection occurs chiefly in children whose hygienic surroundings are defective. It is rarely recognized, the sufferings to which it gives rise being as a rule attributed to dentition, worms, and a variety of other causes. It produces painful

irritative phenomena. and if it persists unchecked may cause an arrest in the development of the whole body.

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ITEM.

THE following papers will be read at the meeting of the AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, at Richmond, Va., on September 22d, 23d, and 24th:

Principles and Progress in Gynecology. President's address. Joseph Price, Philadelphia.

Vaginal Hysterectomy by the Clamp Method. Sherwood Dunn, Los Angeles.

Further Experience with Appendicitis. A. Vander Veer, Albany.

Relation of Malignant Disease of the Adnexa to Primary Invasion of the Uterus. A. P. Clarke, Cambridge.

Treatment of Puerperal Septicemia. H. W. Longyear, Detroit.

Treatment of Posterior Presentation of the Vertex. E. P. Bernardy, Philadelphia.

Relation of Local Visceral Disorders to the Delusions and Hallucinations of the Insane. W. P. Manton, Detroit.

Differential Diagnosis of Hemorrhage, Shock, and Sepsis. Eugene Boise, Grand Rapids.

Movable Kidney: Local and Remote Results. A. H. Cordier, Kansas City.

Pathology and Indications for Active Surgical Treatment in Contusions of the Abdomen. W. G. Macdonald, Albany.

Some Causes of Insanity in Women. George H. Rohé, Sykesville.

Shall Hysterectomy be performed in Inflammatory Diseases of the Appendages? L. H. Dunning, Indianapolis.

Dynamic Ileus: with Report of Cases. J. W. Long, Richmond.

Faradic Treatment of Uterine Inertia and Subinvolution. Charles Stover, Amsterdam.

A Plea for Absorbable Ligatures. H. E. Hayd, Buffalo.

Treatment of the Stump. J. F. Baldwin, Columbus.

Limitations in the Teaching of Obstetrics and Gynecology as Determined by State Medical Examining Boards. William Warren Potter, Buffalo.

(a) The Philosophy of Drainage; (b) Treatment of the Pedicle in Hysterectomy or Hysteromyomectomy by the Abdominal Method. Geo. F. Hulbert, St. Louis.

Removal of the Uterine Appendages for Epilepsy and Insanity: A Plea for its More General Adoption. D. Tod Gilliam, Columbus.

Albuminuria of Pregnancy. A. Fr. Eklund, Stockholm.

Unnecessary and Unnatural Fixation of the Uterus and its Results. James F. W. Ross, Toronto.

Sarcoma of the Urethra. Charles A. L. Reed, Cincinnati.

Appendicitis as a Complication in Suppurative Inflammation of the Uterine Appendages. L. S. McMurtry, Louisville.

Gunshot Wounds of the Abdomen with the New Gun. J. D. Griffith, Kansas City.

Tubo-ovarian Cysts, with Interesting Cases. A. Goldspohn, Chicago.

Obstruction of the Bowels following Abdominal Section. Geo. S. Peck, Youngstown.

Three Cases of Bowel Resection ; End-to-end Suture ; Recovery. John B. Deaver, Philadelphia.

Surgical Management of Acute Diffuse Peritonitis, with Report of Cases. John Young Brown, Jr., St. Louis.

Ventrofixation and Alexander's Operation. Geo. Ben. Johnston, Richmond.

Rupture of the Uterus during Labor, with a Specimen. B. W. Hypes, St. Louis.

Ten Abdominal Hysterectomies for Fibroid Disease of the Uterus. Reuben Peterson, Grand Rapids.

Porro's Operation, with Report of a Case. Edwin Ricketts, Cincinnati.

Methods of Dealing with the Stump in Operations for Appendicitis. C. N. Smith, Toledo.

Report of Nine Cases of Uterine Fibroids complicated by Pregnancy. M. Rosenwasser, Cleveland.

Abdominal Section for Tubercular Disease. Thos. E. McArdle, Washington.

Atresia with Retention of the Menses ; Treatment. W. H. Myers, Ft. Wayne.

Suture of Large Vessels injured in Operation, with Demonstration of Method. J. B. Murphy, Chicago.

Memorial of Dr. Hiram Corson. Traill Green, Easton.

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ORIGINAL COMMUNICATIONS.

THE TREATMENT OF PUERPERAL INFECTION.¹

BY

H. W. LONGYEAR, M.D.,
Detroit, Mich.

(With two illustrations.)

THE more recent discoveries relating to the laws governing bacteriological growth, the still more recent achievements in the constantly broadening line of serum therapy, and the over-reaching tendency of the abdominal surgeon to attempt to make the knife the arbiter of all human ills, render the consideration of this subject at this time and by this Association a matter of duty as well as of interest. The subject, considered in all of its details, is of such extent that to touch upon them all would far exceed the scope of this paper, even if it were within the ability of the writer to do so. This being the case, I shall try to bring before you only the salient points, hoping that with the discussion which they will evoke valuable material may be obtained.

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

Preventive treatment must necessarily receive our first consideration, as the story told by the statistics of recent years on this subject indicates that a far greater number of lives of puerperal women have been saved by prophylaxis than by therapeutics. It is here that the old maxim, "an ounce of prevention is worth a pound of cure," has proven doubly true.

The progress of the prophylactic treatment of puerperal infection having its inception at about the same time as that of the new era of surgical antisepsis as inaugurated by Lister, its development has been along the same lines as those followed in the prevention of sepsis in the field of general surgery. Puerperal infection is a surgical disease, and being such should receive surgical treatment. Phlebotomy, cataplasms, antiphlogistics, and other equally uncertain, empirical methods of the old days must give way to the more positive, certain, and scientific methods which in their action are directed toward the evil at its root, and have for their aim the destruction of the microbe and the neutralization of ptomaines.

Since the days of Semmelweiss, who first drew the attention of the medical world to the true nature of puerperal fever, to the present time, the mortality of the lying-in room has become steadily less, and the maternity hospital, having passed through a period of evolution during this time, from the most dangerous place in which a woman could be confined (as it was then) has now become the safest—a true haven of refuge for woman in the most trying hour of her life. Success in the breaking-down of the mortality in these institutions has been attained only as the result of the incessant, watchful care of the experienced physicians in charge, and without which no maternity hospital or obstetrician can excel in the saving of these lives. *Eternal vigilance* in this avocation is the price of life, and no physician should undertake the duties of the accoucheur unless he is prepared to pay this price.

In perfect results in institutional maternity work, the Preston Retreat, of Philadelphia, while under the supervision of Dr. Joseph Price, probably excelled all other institutions of the kind in the world, as he reported in 1892 eleven hundred confinements without a death.

All parturient women, however, are not so fortunate as to be able to take advantage of the watchful care and immunity from danger offered by one of these ideal maternities. Many, fortunately, can be cared for by intelligent physicians who are alive to the advantages of modern methods and ideas ; but the

vast majority of them cannot, for various reasons, command this kind of skilled attention, and it is among this class that infection plays sad havoc. The uneducated midwife or ignorant, self-styled physician, allowed by the laxness or total lack of laws on this subject in many of our States to practise without evidence of education, ability, or fitness, is responsible for the most of this wanton and reckless waste of human life. Medical men throughout this country should work unceasingly until, by the education of the people and especially of the law-makers, every State in the Union shall have laws enacted that will protect its women against this kind of fiendish ignorance and incompetency. The writer speaks feelingly on this subject, as he comes from a State that is unprotected in this respect, and in consequence is the dumping-ground for quacks, medical ignoramuses, and self-made midwives of many of the adjoining States whose enlightened legislators have passed laws which have resulted in purging their territory of these death-dealing parasites.

Statistics regarding the mortality of women attended by midwives cannot be obtained in this country. With a view of collecting such statistics, the writer, through the office of the Board of Health of Detroit, communicated with the health boards of several of our largest cities, but nothing could be learned on the subject. As pertinent to this subject, and as illustrating the difficulties sometimes encountered in obtaining these statistics, I quote the following from the last annual report of J. L. Hess, M.D., Health Officer of Cleveland, O.: ". . . I wish to call your attention to what appears to me to be criminal negligence on the part of physicians and midwives with reference to the reporting of puerperal fever. The record shows only one case reported with twenty-eight deaths from the same cause. On reviewing the records for several years back I find this same deplorable condition of affairs to have existed. I therefore feel the necessity of this department resorting to the courts to compel those who have charge of patients afflicted with this disease, which is so destructive to life, to report the same to this office, that we may be able to place such patients under proper quarantine."

This health officer is evidently attempting to quarantine puerperal-fever patients, with the very natural result that he complains of, and with the same result that would be reached if tried by other health officers. At my suggestion the health officer of the city of Detroit now requires physicians signing

death certificates of persons dying of puerperal disease to state the names of other physicians or midwives (if there be such) who have attended the cases. By this means we hope to obtain some statistics in this matter.

The greatest mortality from puerperal infection occurs in localities where people are thickly crowded together, as in the towns and cities, while in the sparsely settled country cases are extremely rare, which immunity is doubtless due to the comparative natural isolation of the patients. Isolation in institution maternity work has been found to be of the greatest prophylactic value.

Specific prophylaxis may be said to consist mainly in the absolute *cleanness* of accoucheur and nurse. The obstetrician, like the abdominal surgeon, must be *habitually* clean. He who attempts to cleanse himself on occasion, only at such times as he thinks it necessary to meet the demands of each case, will experience about the same so-called "unlucky streaks" of unfortunate cases of "mysterious" deaths that happen to the abdominal surgeon of similar habits. The spasmodically clean man, who goes about his daily business with his finger nails "in mourning," and has, like Aunt Dinah, these general "clarin'-up spells," has no place in modern aseptic midwifery. If a general practitioner, he must ever bear in mind the thought of the prevention of contamination of clothing and person. The physician who habitually sits on the bed or other article of furniture, in rooms occupied by patients suffering from contagious or infectious disease, or otherwise allows his clothing, or parts of his person that cannot be immediately washed, to come in contact with the patient or articles that may be infected, cannot be a safe person to enter the lying-in room. His clothing not only should be clean, but while attending the case it should be completely covered by a gown in such a manner that the patient, the bed, and the operator's hands will not come in contact with it. The doctor will often go, without a thought of harm, to an accouchement in an uncovered suit of rough woollen clothing that perhaps he may have worn for months, but would look with horror on the idea of his appearing at the function in a suit of white linen worn for the same length of time—and yet the linen would be the cleaner! Out of sight is apt to be out of mind. The dirt easily seen is easily guarded against, while that which is unseen becomes dangerous.

Dependence on chemicals *only* for disinfection of the hands

is dangerous. Their application should invariably be preceded by the vigorous use of a stiff nail brush with plenty of warm water and soap, which will remove not only the visible dirt, but also the natural sebaceous material which may protect the microbe from the action of the disinfectant. The emollient and soap to be used should be kept in an aseptic condition, which is easily accomplished by having them contained in artists' tubes. The German green soap is convenient for this purpose, and it, as well as the vaseline or other emollient, may be sterilized by heat either before or after being placed in the tubes. The clothing and bedding of the patient should be fresh from the laundry. Pads and napkins may be sterilized by heat and kept wrapped in sublimate gauze until used. At the commencement of labor the patient should receive a full bath of warm water and soap, and at the same time the hair about the genitals be disinfected with a solution of corrosive sublimate 1:2000, after being thoroughly washed with soap and water, a plain enema given, and the preparatory cleansing finished by a vaginal douche of 1:5000 sublimate solution. If the patient has had a history of leucorrheal discharge the vagina should be thoroughly scrubbed with soap and water before the use of the douche. If instruments have been used, or if the patient has had a leucorrhea previous to labor, a 1:5000 sublimate douche should be used at the termination of labor; but in normal cases this would seem uncalled for and should not be used perfunctorily, excepting, perhaps, in institution work where the cases are attended by inexperienced physicians or students. At the completion of the third stage of labor the vagina and perineum should be carefully examined and all tears accurately closed with sutures. Daily vaginal irrigation during the lying-in is not necessary or advisable in normal cases. The apparatus for using the douche should be sterilized by placing it in boiling water for several minutes immediately before using. Following labor the toilet of the parts must be made with the most strict aseptic precautions. Sponges or wash cloths should not be seen in the lying-in room. A new piece of sublimate gauze for each washing of the parts avoids all danger of carrying infection by dirty sponges and cloths.

In cases of abortion the first principle of treatment should be the complete removal of the contents of the uterus. To insure this the endometrium should be explored in all cases in which the physician himself has not had ocular evidence that the whole product of conception has been expelled from the uterus.

When dilatation is sufficient this is best accomplished by the index finger of the operator, and all adherent and loose portions of the secundines removed by it. If dilatation is not thus sufficient the usual method is to dilate and curette, if symptoms indicate the incomplete emptying of the uterus. This means considerable of an operation, and is not usually resorted to as a prophylactic measure. To facilitate the easy exploration of the uterus, and to avoid the formidable operation of dilatation and curettage in these cases, the writer several years ago designed and has since used a forceps which has made the treatment of abortion a very simple matter both to the patient and physician. Owing to its shape and construction it can be used with but slight dilatation of the cervix, the blades opening freely within the uterine cavity without further dilating the canal. The instrument is especially designed for use in cases where dilatation is slight, when the secundines can be rapidly removed by morcellation. With the patient in the dorsal position, the index finger



FIG. 1.—Dr. Longyear's abortion forceps.

is placed against the cervix as a guide, the forceps passed into the uterus, every part explored, and the contents removed piece by piece. Since beginning the use of this instrument I have tamponed for hemorrhage due to abortion but once, and have not used the curette at all for the removal of retained secundines. It allows of an operation that is practically painless to the patient, and quickly and thoroughly accomplishes, without the necessity of anesthetic or assistant, in a surgical and aseptic manner, that which the clumsy tampon, with its long-drawn-out agony and uncertainty, has been accustomed to do. If the cervix is sufficiently dilated to allow of the finger being used as a guide to the fragments to be removed, so much the better for the speed of the operation ; but it is not a necessity, as my experience has demonstrated that by the intelligent manipulation of the instrument all parts of the cavity can be gone over and everything perfectly removed without the aid of the finger within and without danger of doing injury to the uterine tissue. Experience has shown that cases of abortion, when treated in this way, make the most rapid recoveries, the

subsequent flow being quickly over and involution rapid, which is doubtless due to the complete removal by the instrument of the remains of the decidua, which under ordinary circumstances requires considerable time to liquefy and pass out of the uterus. With the operation immediately followed by intra-uterine irrigation with sublimate solution, the uterus contracts and the closed cavity ceases to offer invitation to septic germs.

In cases of infection following abortion an exploration of the uterine cavity by this means should be made without delay, the decomposing secundines which are usually found in such cases removed, and the cavity thoroughly douched with a 1 : 2000 sublimate solution, used by means of the double canula. The manipulation should be as gentle as possible and any traumatism of the uterine tissue avoided, which can be accomplished much more safely with this instrument than with the tenaculum and curette. The curette, in recent cases, accomplishes no more than the forceps, and its use is attended by the additional danger caused by the dilatation which is usually necessary to its use, and the laceration caused by the tenaculum. In cases of longer standing the curette, by removing the zone of granulations which stand as an opposing barrier against the entrance of septic germs, may, if used without the knowledge of this fact, still further add to the danger of the case. After the use of the curette in such cases, the douching of the cavity should be followed by the application of an agent of a mildly caustic nature for the purpose of forming a protecting coating over the denuded surfaces. For this purpose, and, in fact, in all cases not of recent origin treated by me, I apply a mixture of iodine, carbolic acid, and chloral, which, besides having a powerful germicidal action, has the merit of acting as a caustic and searing over abraded surfaces without doing injury to healthy mucous membrane, if the excess of the chemical is washed away after its application. The formula (copied from some clinical notes) is as follows: Crystallized iodine, two parts; carbolic acid, two parts; chloral hydrate, one part; water, sufficient to dissolve. The iodine and carbolic acid are first liquefied by heat, the chloral added and enough water to dissolve. My method of using it is, after washing the cavity clean of all débris, to inject about half a drachm, then, with a swab of absorbent cotton on dressing forceps or applicator, apply it to all parts of the endometrium, rubbing it in thoroughly, after which the douche is again used and a drainage tube inserted. The action of the chemical on the blood and

other albuminous substances within the uterus is to shrink and harden them, when they are rolled up and loosened from the uterine wall by the swab and removed by the douche, leaving the endometrium quite free from *débris*. In no case where I desire drainage do I pack the uterine cavity with gauze, as it causes pain to the patient, drains only the serum, and causes the retention of clots and other *débris* that would otherwise be expelled by the gradual settling together of the uterine walls that naturally occurs when the cervical canal is kept freely open. The intrauterine drainage tube which I use is one that I first devised for use as a stem pessary. As you will see by the sample I will show you, it is made of silver, and is held in place, when introduced, by two flexible wire arms whose extremities are knobbed to prevent injury to the endometrium. Before introduction these arms are closed within the tube by means of the staff to which the instrument is attached when in use. The slots through which the arms pass when liberated by

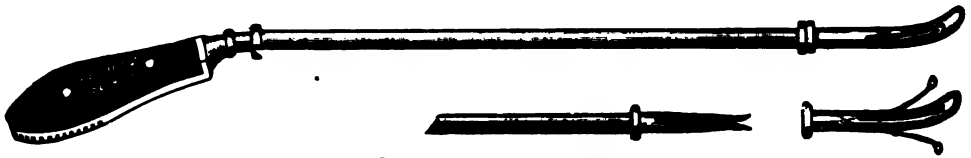


FIG. 2.—Dr. Longyear's uterine drainage tube.

the withdrawal of the staff allow of the drainage of fluids and *débris* from the uterus, and by virtue of their position, being placed behind the arms, cannot become clogged by mucous membrane being forced into them. Through a small hole in the flange of the instrument a shotted silver wire is made fast to facilitate its removal in case it slips within the os. The tube is easily removed by making traction on it with forceps, by grasping the shot or the end of the tube itself. The use of the tube renders the irrigation of the cavity as often as desired a very simple matter, as it can be removed before and introduced afterward without difficulty, and an unobstructed canal is assured. Its presence does not usually cause any discomfort.

In both the surgical and medical treatment of infection following childbirth much damage may result from the application of empirical treatment without regard to the exact pathological condition present and the particular kind of infection to be dealt with. The use of the intrauterine douche with a patient suffering with a ruptured pus tube; the application of hot poultices and fomentations, and the administration of veratrum and other debilitating drugs, to cure a septic endometri-

tis and peritonitis, and other similar "misfits" between remedies and disease, are too familiar to the observation of all of us. Correct diagnosis, when possible, should include the nature of the infecting microbe. This can sometimes be determined by the history of the case—as in gonorrheal infection—but a culture should be made when facilities are at hand for doing so, and the microscope will sometimes assist in making the diagnosis without the culture. In these days of exact and scientific methods of surgical treatment and the increasing use of the various antitoxin serums in the systemic treatment of microbial infection, scientific diagnosis becomes a necessity.

The usual infection, beginning with endometritis, accompanied by chills, fever, and other constitutional symptoms, may originate from a number of causes, and be slow or rapid in development according to the virulence of the specific microbe causing it, the extent of denuded absorbing surface in the genital tract, and the ability of the individual to combat the toxin in the blood. These points being conceded, and the specific microbe causing the infection in a given case determined, the plan of treatment should be, first, to destroy or diminish the intensity of the action of the microbe at its seat of operation; second, to diminish the extent, or change the character of, the denuded absorbing surfaces; and, third, to assist the natural functions of the body to neutralize, combat, and eliminate the toxin in the blood. The first indication being the cleansing of the uterine cavity, the endometrium should be irrigated with an antiseptic—preferably sublimate solution 1:5000—and then thoroughly and *gently* explored for retained portions of secundines, and all such, if found, removed in the manner best calculated to do it completely and with the least liability of causing trauma to the uterine tissue. Where the cervical dilatation is sufficient, a large, dull scoop-curette is efficient and safe for this purpose. If the os is too small to admit of this the abortion forceps may be used. In these cases, which usually commence soon after parturition, the use of the sharp curette is not advisable, as it is liable to open up the sinuses and cause fresh denudations and so favor absorption. In simple cases depending on the retention of decomposing secundines or the retention of decomposing lochial discharge, due to cervical flexion or edema, the evacuation of the uterine cavity by these means, and a few irrigations, with free drainage by the uterine drainage tube when necessary, will serve every indication and prevent that which, from being a mild local infection, would soon

become general from the rapid absorption of toxins. The staphylococcus is usually the pyogenic factor in these cases. When, however, we have a more virulent infection, as from the streptococcus, bacillus coli communis, or diphtheria bacillus, the treatment, while begun in the same manner, must be carried further, both locally and generally. The whole intrauterine surface, after the first irrigation, should be dried, then a thorough application made of an agent like the carbolic-iodine mixture before mentioned, free drainage assured by mechanical means if necessary, and the vagina receive an injection of the peroxide of hydrogen, one to two ounces, every two hours. The uterine cavity should be irrigated two to three times in twenty-four hours, and the application made once a day until the symptoms subside. Here the use of the sharp curette should also be avoided. The instrument would, in my opinion, be as liable to do damage in cases of this kind as it would if used in cases of diphtheria of the pharynx! All abrasions are covered with a membranous exudate, which, if pulled off, leaves a raw surface unprotected by granulations. Hence the agents used should be such as to destroy the vitality of the exudate and cauterize the raw surface where it is removed. Neither is the gauze packing a useful application in these cases, as it retards rather than facilitates drainage, by plugging the outlet of the infected cavity and holding the uterus in a state of distension.

The medical treatment should begin, continue, and end with *eliminatives*, using preferably the salines, whose action tends to drain the pelvic viscera and keeps the peritoneum active in combating the extension of infection to this serous membrane. Alcohol, strychnia, and quinine have their places as supporting agents and should be given as such when the symptoms indicate. Quinine may also be beneficially given to reduce temperature and combat the systemic intoxication, in one large dose per day. Opium has no place in the treatment of this disease, as it tends to retard functional action of the secretory organs and thus prevents elimination. In assisting the system to directly combat the toxins absorbed as a result of the microbic action in the uterus, nuclein is, theoretically, the remedy indicated, as it fortifies and strengthens the white blood corpuscles in their poison-resisting properties, and I think it should be administered persistently by the hypodermatic method in all cases, although my own experience with it has not been extensive or positive enough to make any useful deductions from.

The medication which bids fair thus far to be of the most paramount use in puerperal infection is that comprised under the head of serum therapy. Few reports have yet been published regarding the use of the serum antitoxins, but those that have been seem to prove that in cases of infection due to poisoning by the streptococcus alone (the most common microbic cause in puerperal cases) the streptococcic antitoxin, when used early, is a curative agent of great value; but in mixed cases of infection, in which, besides the streptococcus, the colon bacillus, the bacillus fetidus, the staphylococci, bacillus pyocyaneus, and other micro-organisms are found, the streptococcic antitoxin has little or no beneficial effect.¹ I have been unable to find any reports of cases of puerperal septicemia treated with the diphtheria antitoxin, and as my own experience has apparently demonstrated its usefulness in appropriate cases, and to call attention to the fact that the Klebs-Löffler bacillus should not be lost sight of as a factor in the consideration of the infection of puerperal women, I will briefly report two cases which bear upon this point. The first case was mentioned by Dr. B. F. Shurly in a paper in the *Therapeutic Gazette*, February, 1896:

Mrs. J., age 24, Armenian, primipara, entered the Woman's Hospital, in labor, November 17th, 1895; temperature 98.4°, pulse 74; twenty-five hours in labor; forceps delivery; slight tear in skin at fourchette, not repaired. Temperature after delivery 100°, pulse 100. Pulse and temperature dropped to normal, and remained so until November 21st, when, after a chill, the temperature rose to 102°, pulse 110, morning, and temperature 103.8°, pulse 114, evening.

November 22d, morning, temperature 101.2°, pulse 96; noon, temperature 103.8°, pulse 114; evening, temperature 102°, pulse 102; vaginal erosions covered with a grayish-white exudate; quinine sulphate, two grains every two hours; spiritus frumenti, one drachm every hour; sublimate douche morning and night. November 23d, noon, temperature 104°, pulse 106; evening, temperature 104.2°, pulse 110; complained of pain in lower part of abdomen; removed to isolation ward; hydrogen peroxide, two drachms, injected into vagina every two hours; intrauterine sublimate douche, 1:5000, morning and night, and potassium permanganate solution, one grain to the ounce, at noon. November 24th, morning, temperature 100.8°, pulse 98; noon, temperature 104°, pulse 112; evening, temperature 104.2°, pulse 100; pain in abdomen continues; turpentine stupes applied; continue intrauterine medication, also quinine and whis-

¹ Barton Cooke Hirst in THE AMERICAN JOURNAL OF OBSTETRICS, August, 1896.

key. November 25th, morning, temperature 99.4°, pulse 108; noon, temperature 100.2°, pulse 92; evening, temperature 101.4°, pulse 100; very restless; backache during night; nuclein solution (P., D. & Co.), eighty minims hypodermatically three times a day. November 26th, morning, temperature 99.2°, pulse 94; noon, temperature 103.4°, pulse 100; evening, temperature 105°, pulse 96; vomited several times during morning; very restless; severe backache; vomited after supper; respiration short and irregular; bowels moved several times, watery and yellow. November 27th, morning, temperature 100°, pulse 94; noon, temperature 101.4°, pulse 98; evening, temperature 102.2°, pulse 80; lochial discharge colorless; tincture cactus grand., fifteen minims t.i.d.; bismuth subnitrate, fifteen grains every two hours. November 28th, morning, temperature 104°, pulse 90; noon, temperature 101.2°, pulse 98; evening, temperature 104.2°, pulse 96; right side of vulva red and greatly swollen, extending to coccyx, and margin of inflammation marked by a distinct ridge; patient very weak; culture from uterus and vagina taken by pathologists, but tube broken on the way to laboratory; Basham's mixture, two drachms every two hours. November 29th, morning, temperature 100.2°, pulse 90; noon, temperature 103.6°, pulse 90; evening, temperature 103.2°, pulse 82; vomited during night; bowels loose; sharp pains in abdomen and tenderness on pressure; lies with knees drawn up; inflamed area extended over buttock; coughed some; direct microscopical examination made of discharge by Dr. Sickles, who reported pus bacteria and a bacillus "not unlike that of Klebs-Löffler"; alcohol bath given. November 30th, morning, temperature 100.4°, pulse 92; noon, temperature 102.6°, pulse 94; evening, temperature 104.6°, pulse 96; at 11:30 P.M. injected into muscles of back 10 cubic centimetres (1,000 units) of diphtheria antitoxin serum (P., D. & Co.'s). December 1st, morning, temperature 101.6°, pulse 90; noon, temperature 102.6°, pulse 94; evening, temperature 103.6°, pulse 90; temperature before injection 103.6°, at 12:30 A.M. 104.2°, at 2:30 A.M. 103.2°, at 4:30 A.M. 103.6°, at 6:30 A.M. 101.8°, at 8:00 A.M. 101.6°; injected 10 cubic centimetres (1,000 units) of diphtheria antitoxin serum at 3 P.M.; temperature at 4 P.M. 102.6°, at 5 P.M. 101.8°, at 7 P.M. 103.6°; cutaneous inflammation extends posteriorly to waist line; primary seat of swelling nearly gone. December 2d, morning, temperature 101.6°, pulse 88; noon, temperature 101°, pulse 86; evening, temperature 101.4°, pulse 88; cutaneous swelling extends halfway down thighs and to apex of scapula; vomited once during day; took culture from vagina for pathologist of Board of Health (result negative); exudate in vagina gone, and very little débris comes with douche from uterus. December 3d, morning, temperature 98.8°, pulse 72; noon, temperature 101.4°, pulse 88; evening, temperature 103°, pulse 86; cutaneous inflammation extends to clavicle; grayish discharge mixed with lochia. December 4th, morning, temperature 98.4°, pulse 84; noon, temperature 98.6°, pulse 76; evening, temperature 99.4°, pulse 80;

bowels moved freely, watery in character; enema given; patient looks much better. December 5th, morning, temperature 98.4°, pulse 78; noon, temperature 97.2°, pulse 80; evening, temperature 98.4°, pulse 78; cutaneous inflammation has entirely disappeared; appetite good; bowels moved naturally; vaginal carbolic douche once daily; port wine with meals. December 6th, morning, temperature 98.4°, pulse 78; noon, temperature 99°, pulse 78; evening, temperature 100.4°, pulse 88; desquamation of skin began; sulphonal for insomnia. December 7th, morning, temperature 98.2°, pulse 76; noon, temperature 99.2°, pulse 78; evening, temperature 99.6°, pulse 80; rested well during night; douche water (vaginal) perfectly clear; sat up half an hour. December 8th, morning, temperature 98.4°, pulse 78; noon, temperature 99°, pulse 80; evening, temperature 100°, pulse 90; medication (quinine and whiskey) diminished one-half; patient disinfected and transferred to private room. December 9th, morning, temperature 98.4°, pulse 90; noon, temperature 99.2°, pulse 88; evening, temperature 100.2°, pulse 90; rested well during night; appetite good; milk coming in breasts; lochia normal. After this patient continued to improve and was discharged December 15th. Patient reported on June 1st—both mother and child well.

Two cases were confined the day following the confinement of the foregoing; each had a chill the third day after, the same grayish membrane was present in the vagina, the sequence of symptoms was the same as with the first case, and they both died, one on the third day after the chill and the other on the seventh day after the chill, with well-marked symptoms of peritonitis. Neither of these patients was treated with the antitoxin, but otherwise the treatment was the same as with the one who was so treated. The symptoms of peritonitis had apparently begun, in the first case, on the evening before the administration of the first dose of antitoxin.

An autopsy was made by Dr. Hickey, the hospital pathologist, on the body of the case that died on the third day after the chill, and the following notes made: Green, purulent fluid in abdominal cavity; intestines adherent; appendix normal; left Fallopian tube enlarged and infiltrated, containing no pus, but evidently indicating the track by which the microbic infection entered the peritoneal cavity; uterus showed little that was abnormal, having no pus pockets in its walls and being fairly clean inside, with evidences of congestion of the endometrium. Bacteriological examination of the placental site showed the *staphylococcus pyogenes albus*. Unfortunately no examination of the fluid in the abdomen was made. The conditions found at this autopsy would not indicate the usefulness of curettage

in similar cases ; neither would a hysterectomy be indicated in another case presenting a like history, as the uterus and Fallopian tubes had acted only as a track by which the bacteria entered the abdominal cavity, and did not present any collections of pus or other pathological condition that would warrant the removal of these organs.

The second case treated by the diphtheria antitoxin occurred at Harper Hospital in the service of Dr. Carstens, who, at my suggestion, allowed the trial of the serum to be made. This history is as follows :

Mrs. F., age 28, primipara, beginning eighth month of pregnancy, entered Harper Hospital March 13th, 1896, for treatment for albuminuria. Premature delivery was induced and delivery accomplished by forceps March 16th. On the 18th a chill occurred, after which temperature was 102.4° , pulse 126. Intrauterine sublimate douche.

March 19th, morning, temperature 102.4° , pulse 116; noon, temperature 101.6° , pulse 104; evening, temperature 103.4° , pulse 122; chill at 3 A.M.; vomited; intrauterine douche; insomnia; pain in pelvic region. March 20th, morning, temperature 100° , pulse 110; noon, temperature 104.4° , pulse 120; 10 cubic centimetres (1,000 units) of diphtheria antitoxin (P., D. & Co.) given hypodermatically at 3:45 P.M.; douche discontinued. March 21st, morning, temperature 100° , pulse 104; noon, temperature 103.8° , pulse 134; evening, temperature 100.4° , pulse 100; had a good night; ten cubic centimetres of antitoxin at 7:25 P.M.; quinine sulphate, five grains t.i.d.; whiskey, two drachms every four hours. March 22d, morning, temperature 100° , pulse 102; noon, temperature 101.6° , pulse 110; evening, temperature 100.8° , pulse 104; had a good night; no antitoxin. March 23d, morning, temperature 98.2° , pulse 100; noon, temperature 100.6° , pulse 110; evening, temperature 99.8° , pulse 108; good night; fifty-four ounces urine passed in twenty-four hours; vomited quinine sulphate; culture taken from vagina (result negative). March 24th, morning, temperature 99° , pulse 92; noon, temperature 99.6° , pulse 80; evening, temperature 99.6° , pulse 100. After this date patient convalesced, with slight daily variations in temperature, and was discharged April 4th, 1896.

While the evidence procured from bacteriological examinations in these cases was not positive enough to establish a certain diagnosis of diphtheria, the results of the use of the diphtheria antitoxin either prove that they were cases of diphtheria or that this serum has antimicrobial properties beyond those which it exerts on the Klebs-Löffler bacillus. "One swallow doesn't make a summer," neither do I expect the history of these two cases will establish any principle of practice, but it

may lead to a line of experimentation by which successful principles may be evolved.

In cases suffering from gonorrheal infection the diagnosis is usually not difficult. The history of a troublesome leucorrhea before confinement, the mild constitutional symptoms regardless of temperature (unless the peritoneum becomes involved), the purulent discharge from uterus and vagina, without membranous exudate on denuded surfaces, patulous os, and uterine cavity filled with purulent fluid, all point to the diagnosis. Where the presence of the gonococcus in the discharge can be demonstrated the diagnosis should be confirmed in this manner, but the history of the case with the clinical manifestations will usually present evidence sufficiently conclusive.

Here, if the disease is to be stayed and tubular and peritoneal infection prevented, treatment must be prompt and decisive, and is on about the same lines as followed in the local treatment recommended in other forms of infection, the prime object being the thorough disinfection of the uterine cavity without adding to the danger of the case by traumatic injuries of rough treatment. Hence, in the treatment of acute cases of gonorrheal infection of the uterine cavity, the use of the tenaculum, dilator, sharp curette, and gauze packing should be avoided. Without going into further detail, and as illustrating the behavior of temperature and pulse, and showing the plan of treatment usually followed by me in this form of infection, I submit the following case, which I saw for the first time on the eighth day after confinement:

Miss B., age 22, primipara, entered the Woman's Hospital, and was an inmate for several weeks before labor, which occurred July 8th, 1896. Had a leucorrheal discharge up to the time of labor. Labor normal, with the exception of a rupture of the perineum of the first degree, which was closed by three sutures. Temperature and pulse normal before delivery.

July 9th, evening, temperature 102°, pulse 126; lochia scanty. July 10th, morning, temperature 98.6°, pulse 80; evening, temperature 100.2°, pulse 100; lochia scanty, pale yellow; abdominal pain; turpentine enema. July 11th, morning, temperature 98°, pulse 76; evening, temperature 101.6°, pulse 102; lochia more colored; suppository aristol and boric acid twice a day. July 12th, morning, temperature 98.8°, pulse 84; evening, temperature 100.4°, pulse 92; quinine, six grains morning and night; vaginal sublimate douche twice a day. July 13th, morning, temperature 98.4°, pulse 80; evening, temperature 100.2°, pulse 90. July 14th, morning, temperature 99°, pulse 88; evening, temperature 100.6°, pulse 94; pain in abdomen. July 15th, morning, temperature 98.6°, pulse 96;

evening, temperature 102°, pulse 104; turpentine stupes to abdomen; sutures removed; wound healed; lochia very scanty; purulent discharge. July 16th, morning, temperature 100.8°, pulse 100; evening, temperature 103.6°, pulse 104; sublimate intrauterine douche to be used twice a day; patient chilly at 1:15 P.M. July 17th, morning, temperature 99.6°, pulse 100; evening, temperature 103.4°, pulse 104; quinine ten grains, acetanilide six grains, once a day; sal Rochelle, two drachms every morning. July 18th, morning, temperature 103°, pulse 120; evening, temperature 103°, pulse 110; slept well during night; no lochia; intrauterine treatment with iodine and carbolic acid mixture; os patulous and drainage tube not necessary; turpentine enema. July 19th, morning, temperature 101.4°, pulse 108; evening, temperature 102°, pulse 104; copious intrauterine douche of hot water followed by saturated solution of boric acid twice daily, followed by iodoform suppository in vagina; intrauterine application of iodine and carbolic acid. July 20th, morning, temperature 100.8°, pulse 96; evening, temperature 102.4°, pulse 94; lochia copious. July 21st, morning, temperature 100.8°, pulse 96; evening, temperature 101.8°, pulse 105; lochia scanty and light color; intrauterine application of iodine and carbolic acid. July 22d, morning, temperature 101°, pulse 96; evening, temperature 102.8°, pulse 92. July 23d, morning, temperature 99°, pulse 90; evening, temperature 101.6°, pulse 86. July 24th, morning, temperature 99.6°, pulse 84; evening, temperature 101.2°, pulse 84; hot douche with boric acid discontinued. July 25th, morning, temperature 99°, pulse 78; evening, temperature 100.6°, pulse 84. July 26th, morning, temperature 98.4°, pulse 70; no rise above 99.6° after this date.

All cases do not terminate as favorably as the foregoing, and in spite of treatment, or perhaps for the want of it, the infection extends into the Fallopian tubes, when the question of abdominal section may be considered; but this operation is not usually necessary during the acute stage, unless the peritoneum becomes infected, when it should be performed without delay and the diseased appendages removed, the abdominal cavity thoroughly flushed with sterilized normal saline solution, and the incision closed with drainage. In cases in which the appendages become swollen, without evidences of more than local peritoneal irritation, the radical operation had best be deferred until after the puerperal period.

However, if abscess of the Fallopian tubes occurs and the presence of the pus is causing an increase or a continuation of the septic conditions, surgical interference is indicated. If the septicemia is profound and the symptoms are those of the more virulent microbic action, the pus, if it can be so directed, is

best drained through the vagina and the radical operation deferred until the dangerous septic symptoms subside. Such cases are usually the result of mixed infection and are the ones usually lost by abdominal section, as the general peritoneal cavity becomes contaminated during the operation. If the pus is the result of the action of the gonococcus only, the danger from peritoneal infection during section is not so great, neither are the symptoms usually so urgent as to demand immediate operation. Dr. Louis Frank, of Louisville, Ky., in an article in the *Medical News*, October 19th, 1895, reports a case of virulent septic peritonitis following abdominal section for pyosalpinx of recent origin, in which he found, at the autopsy, gonococci in the fluid of the abdomen. He concludes from this, and from other evidence which he quotes, that gonococci from pus of recent origin may be capable of producing rapidly fatal purulent peritonitis. This view has not been generally held, and if true should be easy of demonstration.

I do not advocate the removal of the uterus with the appendages in these cases, unless it can be demonstrated that it is acting as a focus of infection by reason of pus pockets within its walls.

Peritonitis occurring immediately after labor, being almost invariably the result of the infection of the peritoneum by the rupture of some collection of pus—usually an old pyosalpinx or abscess of the appendix—by the traumatism of labor, should be treated by abdominal section at the earliest possible moment, and no time wasted over the trial of any other method of treatment, as nothing else will avail, and each hour without section carries the patient further from hope of rescue, as the action of the disease is intensely rapid, usually causing collapse and death within two or three days.

General purulent peritonitis, resulting secondarily from a continuation of infection from the uterus, I believe to be usually beyond operative treatment; but if the patient is not in collapse, section, lavage, and drainage should be tried.

I believe that the fashion of advocating the operation of hysterectomy for the cure of puerperal septicemia is a dangerous teaching and calculated to result in the loss of more lives than it will ever save. Until physicians become wise and skilful enough to determine whether or not the infection of the extensive lymphatic system in and adjacent to the uterus is confined to the tissues to be removed, the operation must be confined to the limitations that obtain in its application in non-puerperal surgery. If it can be demonstrated, either before or at the time

of operation, that the uterine walls are riddled with pus pockets, or if the organ is in any other way the subject of a limited septic disease which is beyond repair, then the organ should be removed; but to remove it for a septic infection of its interior without evidence of other pathological lesion, with the sole object of cutting off the danger of infection through the lymph channels, is to do an operation the object of which is so uncertain and its dangers so great as to make it an unwarranted proceeding. Other methods of treatment offer these patients far greater chances of recovery.

There are some rare forms of infection that are so virulent and rapid in their action as to baffle all hithertoknown methods of treatment. Infection from erysipelas and scarlatina I believe to act in this manner at times, its entrance into the circulation often occurring non vaginam and at any time during the puerperal state, but, because of the pregnant condition, operating in this intensely virulent manner. Such cases, I believe, offer a good field for the experimental use of the serum antitoxins. A case of this kind occurred in my practice a number of years ago in the person of a healthy young woman, five months pregnant, who was nursing her husband, ill with traumatic facial erysipelas. Her attack began with a hard chill, followed by high fever and delirium. Labor pains began on the second day, became immediately violent, and before I could reach her bedside the contents of the uterus were expelled intact, with membranes unruptured. The delirium became violent, and she died on the third day following the chill.

For assistance in the preparation of this paper I am indebted to Drs. B. F. Shurly and Jessie L. Herrick for notes of cases and help in the antitoxin experiments.

698 WOODWARD AVENUE.

SHALL HYSTERECTOMY BE PERFORMED IN INFLAMMATORY DISEASES OF THE PELVIC ORGANS?¹

BY

L. H. DUNNING, M.D.,
Indianapolis, Ind.

A CONSIDERATION of puerperal sepsis and tuberculous peritonitis shall be excluded from this paper. We shall discuss only that form of inflammation of the pelvic organs and tissues

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

denominated diffuse pelvic inflammation. By thus limiting our paper we will avoid many moot questions which must be settled before any definite conclusions can be reached.

It is unfortunate that such expressions as "making a clean sweep of the pelvic organs," "cleaning out the pelvis," "removing everything," "after the menopause the uterus is worse than a useless organ," should have found a way into the discussion of this subject.

These catch-words, like the metaphors of the demagogues, are by many seized upon as expressing the final conclusions of our wise men, our masters. If not intended to be uttered in this sense, they are yet taken up and used as a rallying cry by the devotees of the extreme hysterectomists. A catch expression, though it may be false, may be so frequently and dogmatically repeated as to become cogent in moulding public sentiment. Emmet has well said: "It requires ten times as great an effort to eradicate an error as to establish a new truth."

A long time after a new principle or method has become obsolete with the master the disciple will hold to it and be influenced by it; and frequently, too, a meaning is given an expression never intended by its originator. Such, indeed, I am persuaded, has been the case with those mentioned above.

It is now only in septic cases that the greatest number of hysterectomists would have the dangerously diseased uterus removed in inflammatory cases, yet many of the laity and many physicians have extended the method to all obscure cases of pelvic disease which, though mildly inflammatory in character, do not result in suppuration.

These remarks are called forth because the writer has during the past year been consulted by quite a number of patients who have been examined by several physicians, some of whom have expressed the opinion that only a clean sweep of the pelvic organs would afford them any relief. He has furthermore had referred to him four or five patients sent by intelligent and progressive physicians, the patients bringing letters from the physicians in which it was stated that the patients had been advised that hysterectomy, with complete removal of the diseased organs, was the only promising means of cure. In but one of these cases was there a suppurative process going on in the pelvic tissues.

That hysterectomy in inflammatory disease of the pelvic organs resulting in suppuration is sometimes indicated will be generally admitted, but that it is the preferable method in the larger number of cases few will at present claim.

Since Henrotin¹ in 1895 announced the dictum, "In every form of septic disease of the female genitive organs which demands the removal of the tubes and ovaries, hysterectomy should be performed, unless there are contraindications forbidding it," the contraindications have gradually appeared, so that in the future there will not be so general an onslaught upon this central organ of the reproductive system in woman.

Let us consider somewhat in detail some of the chief reasons advanced by the leaders of the movement for total castration. The dictum has been stated above that in all cases of bilateral purulent disease of the uterine adnexa demanding extirpation of these organs the total extirpation of the uterus should be also accomplished, unless forbidden by contraindications. The chief reasons for including hysterectomy in the operative means employed in such cases is that by this means alone can we hope to cure the greater number of patients. In justification of the complete extirpation of the organs of a great system in the economy of woman, they claim that hysterectomy is not attended by any increased risk to the life of the patient over bilateral extirpation of the uterine adnexa by the abdominal method; fewer accidents occur; the patient makes a more rapid recovery; and the uterus, if left behind, is of no use to the woman, indeed is an emasculated uterus, and is, furthermore, under such circumstances simply² "a cloaca for the origin of hemorrhage, the accumulation of discharges, and the development of malignancy."

It is pertinent to inquire whose experiences have been interrogated in arriving at the conclusion that the extirpation of suppurating tubes and ovaries in appropriate cases is not effective in curing the patients. Is it Tait's or Price's, Martin's, Hegar's, Pozzi's, and a host of others nearly as great, and others of lesser distinction?

These eminent men all tell us that in a large per cent of cases their patients not only recover from the effects of the operation, but that they ultimately regain their health.

I would ask the members of this Society, What has been your experience in dealing with these cases of inflammatory disease of the pelvic organs? When there have been gross lesions of the Fallopian tubes and ovaries, what have been the results in the recovery and cure of the patients by bilateral extirpation of those organs? The writer's experience has been

¹ THE AMERICAN JOURNAL OF OBSTETRICS, June, 1895, p. 771.

² Op. cit., p. 771.

much less than many of yours, but in a summary, made by him a few months ago, of one hundred and sixteen consecutive cases in which he operated for purulent accumulations in the uterine adnexa by abdominal section and extirpation of the adnexa, seven proved fatal. Of the remaining one hundred and nine all but twelve eventually completely recovered, and of the twelve, three or four were gradually improving. Of the remaining eight, three had septic uteri which he failed to cure by curettement and subsequent treatment. These uteri should be extirpated, but in the other cases, so far as he can see, the uteri are normal.

Quite as many unrelieved and distressing symptoms have presented themselves subsequent to the eighty-four hysterectomies performed by the writer.

The purpose of the removal of the uterus by the vagina, it is stated, is to afford a safe and free access to the pelvic cavity, to afford superior drainage, and to remove a hopelessly diseased organ. The freedom from danger lies in the fact that the abdominal cavity is not invaded, the intestines are not subject to traumatism or exposure to infection. It is true that these advantages at times are marked, yet in no small percentage of pus cases the intestines and omentum are pulled down into the field of operation, and not infrequently are they handled and even torn through in the effort to liberate adhesions. Adherent pus tubes are more prone to be ruptured by this method, and, furthermore, not infrequently some of the most important and deleterious features of the case are not discovered, such as adherent and obstructed intestines, the presence of perityphlitic abscesses and of tuberculous peritonitis.

The advantages and disadvantages of vaginal hysterectomy so nearly counterbalance each other that it is still a moot question which is the better way, the abdominal or the vaginal. In the former method some operators will drain from below, some from above, and some not at all. Yet the mortality of abdominal hysterectomy is quite as low as when the lower method is employed.

This is a complete and unanswerable argument against advantages accruing by the lower way in consequence of its affording a better means of drainage.

The truth is, vaginal hysterectomy by the clamp method always demands a means of drainage because of the sloughs and foul discharges following the operation. Salpingo-oöphorectomy yields as free access to the abdominal and pelvic cav-

ities as abdominal hysterectomy, and must ever remain slightly less dangerous to life in parallel cases by the same operation.

The burden of proof lies with the advocates of total castration as to the truth of the statements that the presence of a hopelessly diseased uterus is the cause of so many unpleasant symptoms following bilateral castration, and that this diseased uterus is a cloaca for hemorrhage, foul discharges, and malignancy.

The laparatomists have established unilateral and bilateral extirpation of the appendages by proof of its efficiency, and not by a mere statement¹ "that to all the patients, or mostly all, health has entirely returned."

We can all call to mind the bitterness with which Mr. Tait was attacked in his earlier operations, and how he was repeatedly called upon for proof of his statements. You will remember, too, how he furnished dates, consultants, places, etc., thus enabling any doubter to verify or disprove his statements.

I have now² seen a detailed account such as his of any considerable number of cases showing the after-effects of the operation, either in respect to the cure of the patient or the frequency of the development of cancer in the so-called cloaca.

Peterson³ has forcibly drawn attention to the necessity of the microscopical and bacteriological examination of the uteri removed by hysterectomy, in order that more definite conclusions as to indications for treatment may be established.

Bayard Holmes⁴ is, so far as I know, the only American investigator who has published the results of such a systematic study, and his studies relate to the effects upon the uterus of puerperal sepsis. They reveal much of importance and strongly fortify the conclusions he draws.

A few cases have been reported in which after bilateral extirpation the uterus has remained a source of disease and its removal has wrought a cure. The method should have full credit for these cures. They are, however, highly exceptional cases and cannot form the basis for the establishment of a broad principle.

These uteri found subsequently diseased are from those cases in which septic uteri existed at the time of the operation and subsequent treatment has failed to effect a cure. It is in this class, if any, that total castration should be employed.

¹ Jacobs, op. cit., p. 737.

² Journal of American Medical Association, August 8th, 1896, p. 296.

³ Op. cit., November 23d, 1895.

Now, what are the facts regarding the subsequent condition of the patients when total castration has been performed ?

Physiology teaches us that the great systems of the physical man are interdependent and all essential to his highest development ; that there is a harmonious movement in the development and decline of each individual. The law of progress of the whole by the harmonious action of each part is a well-established physiological law. The application of this law is that no part of a system, especially the central organ of a system, though we cannot at the time determine its office in the economy, should be wantonly sacrificed. Only a dire necessity can justify such a sacrifice.

Again, another law of physiology is cyclical movement. "The great periods of life are marked by characteristic and palpable changes. There are culminations and declines of functions and faculties." This is nowhere more apparent than in the reproductive system of woman. Let it be observed that in the normal condition after the decline there can nowhere be discovered decay. Every organ of the body serves a purpose, whether during the period of its functional activity or after its decline. No man can truthfully say that after menstruation ceases the organs of the female reproductive system are useless. They are necessary to the complete evolution of the individual woman.¹

We all know and recognize the fact that the extirpation of these organs during the period of their functional activity gives rise to marked disturbances in the individual, which persist many months and sometimes to the end of the life of the woman.

The principle governing us should be to aid Nature in curing diseased tubes, ovaries, and uteri, and not to quickly rid ourselves of this responsibility by hastening to extirpate them.

¹ We have recently learned much regarding the offices of the thyroid and pituitary glands. A few years ago they were physiological puzzles. To-day we know they perform important functions in the economy of man. The functions of the uterus after the menopause are not well understood. That it bears some relation to the co-ordination of nervous energy there seems little doubt. Some minor offices are apparent, viz. : It aids in maintaining the sexual relations of husband and wife. It preserves the anatomical relations of the bladder and rectum, and furnishes secretions that render comfortable the vagina and external organs of generation. What the future will reveal regarding the functions of this organ we cannot now conjecture, but that they will be determined and that they will conform to the physiological laws above stated we are fully convinced.

The true attitude of the surgeon should be to only extirpate those organs that have become so hopelessly diseased that their removal will cure ills greater than the ills induced by their absence from the economy. That in proper cases the extirpation of pus tubes, neoplastic and suppurating ovaries, neoplastic and suppurating uteri, are life-saving operations, none will deny ; but that in inflammatory diseases of these organs all of them should be sacrificed because one or two of them are diseased, is unscientific, unsurgical, and morally wrong.

To illustrate, the following case is cited : In April, 1895, Miss A., aged 20 years, was referred to the writer for the cure of pelvic inflammation. The uterus was large, livid, and soft. The cervix presented a large erosion which bled freely upon touch. There was a profuse muco-purulent discharge from the uterus. There was an irregularly-shaped, boggy mass low in the left side of the pelvis. There was also an indurated and thickened condition of the tissues upon the left side of the pelvis. An examination of the cervical secretion discovered abundant gonococci. The patient was quite ill, being barely able to walk around the room. The illness was of about two months' duration, and one which, according to the teaching of Jacobs, Richelot, and others, would be best treated by total ablation of the uterus, tubes, and ovaries.

The writer, guided by his successful experience in a considerable number of similar cases, decided upon a different course. The uterus was curetted and subsequently treated for ten days, when an abdominal section was performed and a tubo-ovarian abscess was extirpated. The remaining tube and ovary were liberated from adhesions, brought to the surface, examined, and, not being found markedly diseased, were dropped back. The pelvic cavity was flushed with sterilized hot water and subsequently drained for two days. The patient made an easy and rapid recovery from the operation, and after two months' subsequent treatment regained her health and remains well to this day.

This victim of unchaste love, who from a single transgression contracted a dangerous and loathsome disease, was cured of her bodily illness and is gradually regaining her self-respect and purity of mind. She is competent to sustain wifely relations and to become a mother. What a widely different record than this would have been written had we made a clean sweep of the pelvic organs ! Suppose this patient had been a young wife, the victim of her husband's early indiscretions, and total

castration had been effected. I cannot bear to dwell upon the picture of the blighted wife, the agonized husband, the childless and unhappy home.

But the hysterectomist condemns all such expressions as this as "wasted sentiment." The gynecologist is a true man, a member of the great brotherhood of men. He will keep alive such sentiments.

What, in actual experience, have been the after-effects upon the woman of the removal of the uterus?

In endeavoring to answer this question the writer will draw largely from his personal experience and observation. His personal experience as an operator in hysterectomy is limited to eighty-four cases, of which twenty-four were performed for fibroid tumors of the uterus by the abdominal method and sixty by the vaginal method. Of the latter, six were for inflammatory diseases, one for procidentia, and fifty-three for cancer of the uterus. The cancer cases were, all but a few, done early.

But the writer's observation has not been confined to his personal experience, inasmuch as his connection with three public clinics has afforded him opportunity to come in contact with quite a number of patients who have been operated upon by this method by other operators. In very briefly summarizing his experience he will say elderly women bear the removal of the uterus much better than young women, or even than middle-aged women who have not passed the menopause. The majority of women who have had their uteri removed for gross disease of the organ become gradually restored to health. Yet in many cases there is a greater or less disturbance of the nervous system and of the emotional nature. In one instance only has the writer seen mental alienation follow total castration, and in this instance there were evidences of aberration of the mind before the operation, which was one for the removal of uterine fibroma.

The late disturbances, it seems to the writer, of the nervous system and emotional nature in young women are greater than when the appendages alone are removed. These disturbances are, however, not so great as to contraindicate an operation which is life-saving or which rescues a woman from hopeless invalidism. In young married women the results of the operation upon the sexual relations are frequently so marked that, except to save life, the writer would hesitate long before resorting to the operation. Every means that promised a cure would be resorted to first.

Fortunately in suppurating cases of pelvic inflammation salpingo-oöphorectomy is quite as efficient in (as nearly as I can estimate it) ninety-seven per cent of cases. If our estimate is very nearly a correct one it will be time enough to extirpate the uterus if our efforts fail to relieve the organ of its septic condition.

Dudley¹ has called attention to the distribution of the pelvic peritoneum and its office in aiding in respiration and in preventing intra-abdominal pressure and tension. These functions are certainly lost when it is replaced in the pelvis by scar tissue.

Another result of the extirpation of the uterus is the disturbed anatomical relations of the bladder, rectum, and sigmoid. I was deeply impressed by the changed relations of those organs by witnessing a post-mortem upon the remains of a woman who died a year after a total castration. The patient died of some obscure disease. Upon examination of the pelvic cavity it was found necessary, in order to reach the pelvic diaphragm, to tear loose and lift up densely adherent small intestines. It was found that the posterior surface of the bladder was adherent to the lower portion of the sigmoid and upper portion of the rectum. On liberating the bladder and pulling it forward we found a dense, firm diaphragm of cicatricial tissue stretching across the pelvis from side to side, partially occupying the space formerly occupied by the broad ligament, uterus, and cul-de-sac. This was a case of supravaginal hysterectomy and afforded an explanation of the complaints so frequently made to me by patients who had undergone hysterectomy, and who complained of suffering sharp pain through the pelvis on coughing, sneezing, or jumping out of a buggy. The mobile, elastic tissue had been replaced by sensitive scar tissue, so that the impact of the pressure suddenly brought to bear upon these tissues from above produced pain.

After vaginal hysterectomy the bladder frequently falls down against the sigmoid flexure of the colon or upper portion of the rectum and adheres there, so that it is not uncommon to hear patients complain of an uncomfortable feeling in the bladder when the bowels act.

I do not regard the displaced bladder as a very grave objection to hysterectomy, yet it must have some weight in making a decision.

Another drawback (and it is a strong one) to vaginal hysterectomy is the necrosis of tissue and suppuration that always

¹ Transactions of the American Gynecological Society, vol. xix., p. 58.

follow for several days when the clamp method is employed. We have always found it necessary to isolate these patients because of this necrosis and suppuration. We have seen a whole ward infected because of this neglect to so isolate the patients. That systemic effects usually attend this process is evidenced by the rise of temperature and accelerated pulse that is present during its height. In a few instances the writer has seen recovery much delayed in consequence of this pathological condition.

We have now recorded a few of the chief objections to the routine practice of hysterectomy in pelvic inflammation. In view of them the writer can see the method one of choice only in exceptional cases. Salpingo-oöphorectomy cannot be displaced by hysterectomy. That any method will occasionally fail to cure cannot be denied, yet our recoveries are continually increasing as one element of failure after another is being eliminated. In salpingo-oöphorectomy, if we can do away with the stump, one source of subsequent pain and soreness is removed. The writer's enlarged experience more firmly than ever convinces him that the method he proposed¹ one year ago, under the restrictions then stated, will enable us safely to avoid ligating the pedicle by the *en masse* method. The latter method should, in his opinion, be reserved for selected cases—viz., those cases of great vascularity of the pelvic tissues and cases of retroversion and prolapsus of the uterus.

Noble's² paper at the Atlanta meeting of the American Medical Association was timely. He strongly advocates opening and draining large acute pelvic abscesses through the vagina. This method is not new, but had in some quarters fallen into disuse. Its employment will frequently obviate the necessity of more radical means.

Henrotin³ carries the method of incision and drainage further, so as to include old cases of double pyosalpinx and abscesses of the ovary. In his enthusiasm he presents facts and arguments which tend to establish the method and also to overthrow some of his strongest statements in favor of total castration. He says: "Women do recover from salpingitis and pyosalpinx, from ovaritis and ovarian abscess, from cellulitis and from phlegmon of the broad ligament, whether they be of the catarrhal, puerperal, or gonorrheal type, and they sometimes

¹ Journal of the American Medical Association.

² Id., August 8th, 1896, p. 301.

³ THE AMERICAN JOURNAL OF OBSTETRICS, July, 1895, pp. 769-783.

recover entirely and completely, so that this contingency, even if infrequent, must always be considered in forming surgical conclusions."

In extending the use of the vaginal incision and drainage he does not find it necessary to ablate the uterus, even though the Fallopian tubes and ovaries do become obsolete. The fact is, in such cases as are mentioned above, it is exceptional for the uterus to be so far diseased as not to be amenable to curative treatment.

In the summer and autumn of last year the writer did total vaginal castration in five cases in which there were gross lesions of the uterine adnexa. Four of them were suppurative cases. They were cases of chronic recurrent inflammation. In four of them an examination of the uterus after its removal revealed little abnormal in that organ beyond a glandular endometritis. In one case, in which the disease was dependent upon a mild sepsis following an abortion, the uterus was large, flabby, and succulent. The endometrium was greatly hypertrophied and there was present a muco-purulent discharge. The patient made a slow but complete recovery, and the writer was entirely satisfied with the method pursued. The other four patients all recovered, and three of them were cured, while one of them is still suffering the nervousness incident to the artificial induction of the menopause. Her emotional nature is disturbed and she cannot endure sexual intercourse. She has improved slightly during the past two months, and we hope to see her eventually recover. In this patient the uterus was retroverted, bound down by adhesions, and prolapsed to the second degree. There was also gross lesion of the adnexa. An abdominal section and bilateral extirpation would have been the preferable method, for by this means we could have overcome the displacement of the uterus and have retained the organ.

We wish in conclusion to answer one objection urged against bilateral extirpation of the adnexa. It is that a weakening or destruction of the integrity of the broad ligaments results, permitting displacements of the remaining uterus.

Such has not been the writer's experience. When the uterus is retroverted, bilateral extirpation effectively overcomes that displacement almost universally. It is not necessary to do a ventrofixation. When the pedicles are tied by the *en masse* method the broad ligaments are drawn taut and the uterus lifted up with the fundus pointing slightly forward. The writer has observed this fact and demonstrated it over and over

again. It is one of the well-known benefits of double salpingo-oöphorectomy.

My conclusions may be stated as follows:

1. We recognize the utility of hysterectomy in a small percentage of cases of bilateral suppuration of the tubes and ovaries in which the uterus is distinctly septic, and in cases of septic uteri which cannot be cured by other means after bilateral salpingo-oöphorectomy.

2. We oppose hysterectomy as a rule in inflammatory diseases of the pelvic tissues, upon the following grounds, viz.:

(a) The uterus is the central organ of the reproductive system, and should not, except for palpable and urgent cause, be extirpated.

(b) It is only in rare cases that the uterus is so far diseased as to resist the curative effects of appropriate treatment.

(c) The removal of the uterus profoundly affects the nervous system and emotional nature of young women deprived of this organ.

(d) We oppose the removal of the uterus from anatomical reasons, to wit: As a result the vagina is shortened, the anatomical relations of the bladder, sigmoid, and rectum are changed, the elasticity of the pelvic diaphragm is greatly diminished or entirely removed, the elastic tissue being largely replaced by sensitive scar tissue.

(e) In married women it often disturbs the sexual relations of husband and wife, and is apt to induce mental depression.

(f) Vaginal hysterectomy compels the use of drainage because of the necrosis of tissue and suppuration induced.

249 NORTH ALABAMA STREET.

VAGINAL HYSTERECTOMY BY THE CLAMP METHOD.¹

BY

B. SHERWOOD DUNN, M.D.,

Lately attached to Prof. Pozzi, Broca Hospital for Women, Paris, France; Member of the Société Clinique des Praticiens de France; Fellow of the American Association of Obstetricians and Gynecologists.

(With ten illustrations.)

ONE year has passed since I had the honor to address this Association upon the subject of this paper.

The views expressed and active discussion of this operation by the members at that time persuaded me that this paper,

¹ Read by title at the annual meeting of the American Association of Obstetricians and Gynecologists, Richmond, Va., September, 1896.

which should cover more fully the history, technique, and statistics, would be as useful and as acceptable as any I could present.

I have found that this particular operation is not favorably received in the United States and is but little employed, especially in the West. I am a fixed partisan of the clamp method, believing it immeasurably superior to the method by ligature, and therefore ask your attention to the points I shall emphasize in support of my opinion.

Vaginal hysterectomy is a new operation in its perfected technique. It was first performed, I believe, by Sautier, of Constance, in 1822, and again by Récamier in 1829. From 1829 to 1879, because of the multiplied failures, it was done but rarely, and then only for cancer. With the advent of antiseptic surgery it again was brought into public notice in the publication by Czerny of a résumé of cases in a Vienna medical journal. Between 1880 and 1885 the operation gained ground, and successful operations were published by Péan, Terrier, and Richelot; but active interest in this procedure dates from the celebrated discussion before the Surgical Society of Paris in 1888, when Verneuil, that old war-horse of the French school of surgery, arose in that distinguished body of savants and declared himself absolutely opposed to the advent of this new procedure, and presented a favorable array of cases treated by the chain écraseur. So strong was his influence, and his opinion was held in such high regard, that it must have required a great deal of moral stamina to permit of the expression of opposition to this fiat, which was limited to a few younger men—notably Richelot, Bouilly and Terrier, and, I think, Ségond. These gentlemen had the courage of their convictions, and particularly M. Richelot, who in 1891 excited anew the animated discussion of this operation by presenting before the Surgical Society again a résumé of twenty-five new cases operated upon for cancer, with ten relapses of the disease and fifteen without relapse, the shortest of which was then one year and five months. Eminently successful results were at this time presented by the other surgeons I mentioned in connection with him, and from this date vaginal hysterectomy has steadily grown in favor with gynecologists, until now it is performed for a variety of conditions other than cancer.

I look upon an uncomplicated vaginal hysterectomy as one of the simplest of the capital operations in gynecology, and with very little practice, in the hands of an experienced ope-

rator, less dangerous to a patient than a laparotomy. But I would not be understood to advocate indiscriminate hysterectomy. I am intensely conservative by nature, and believe in capital operations only after the exhaustion of tentative measures; but where hysterectomy is indicated I think it preferable to any other procedure. On account of the complete control which is had over patients in European hospitals, especially on the Continent, the knife is used more freely than in this country; and I am satisfied that vaginal hysterectomy is practised to excess in Europe.

Certain elements in the operation should be made prominent. The danger increases in proportion to the length of the operation. The shorter the duration of the operation, within certain limits, the less the patient suffers from shock and from the effects of the anesthetic. I should consider fifteen or twenty minutes the average duration of time for an uncomplicated case. With a view to shortening the operation, Prof. Richelot in 1885 first employed the clamp method, and although Péan at about the same time claimed priority for this procedure, yet it is to Richelot that surgery is indebted for the present perfection of the technique of this operation, and he is, I think, universally conceded by his compeers to be the "king of vaginal hysterectomists." I have seen him do this operation in four and one-half minutes, and he reports having done one hundred and forty-four vaginal hysterectomies between February, 1894, and May, 1895, without the loss of a single case.

The clamp method has the advantage over the ligature of shortening the duration of the operation more than fifty per cent, and the fear that is felt, by those not familiar with it, of post-operative hemorrhage is groundless. By a series of observations made at the autopsies of Broca Hospital, Paris, part of which were made by myself, it was demonstrated that from the point of impingement of the forceps on an artery the blood clot extended from three-fourths to a centimetre in its lumen, and that within twenty-four hours after the operation that part of the clot nearest the instrument, and consequently furthest from the blood current, began to organize itself, and the fibrin, by the natural inflammatory action set up by the traumatism, would, before forty-eight hours, assume a consistence that rendered its dislodgment practically impossible. I have more than once been asked the question by surgeons visiting Paris how we managed to control hemorrhage from the uterus in splitting it up or after amputation of the cervix. The answer is simple.

By forcibly drawing the uterus downward the traction on the blood vessels and their displacement seems to close them, for all hemorrhage is arrested.

Now as to the indications for this operation. Where you have an enlarged uterus showing endometritis, perimetritis, and probably diseased parenchyma, even though the adnexa are but slightly involved, hysterectomy gives the best results. Bilateral disease with suspected pus, with perimetritis and possible pus pockets in the adhesions; purulent pelvic abscesses following neglected and long-standing diseases; uterine fibroma when found in the median line and the size of the organ has not rendered its abstraction too difficult through the vagina, although I have seen Paul Ségond extirpate a fibroma weighing sixteen pounds through the vagina by the morcellement method (Fig. 8).

There is considerable opposition to this operation in the presence of purulent disease, although of late the concurrence of European opinion favors hysterectomy in double pyosalpinx, and also very firm adhesions are by some looked upon as a contraindication. My experience in the latter has been that in seizing a firmly adherent uterus with the Richelot improved five-toothed volsella forceps, you can always draw it down, after making the incision around the cervix, sufficiently to reach and clamp the uterine and ovarian arteries, and then the rest is a matter of patience and careful manipulation. In the case of pus tubes and general purulent abscesses I think it will appeal to you as reasonable that your chances for successful drainage are far superior by the vagina, which gives you drainage *downward*, than by the suprapubic route, where your drainage must be *upward*. The vaginal operation also affords you the opportunity to daily flush out the field of disease more thoroughly and fearlessly than you can do through an abdominal incision.

It is important that your patient should be carefully and properly prepared for this operation. The previous evening the vagina should be thoroughly scrubbed with soap and water by aid of a hand brush, and then flushed out with a 1:2000 bichloride solution and packed with iodoform gauze. Bind the lower extremities to midway between the knee and hip liberally with cotton wadding held on by gauze bandage, and leave it on for two days after the operation. It will materially lessen the shock by keeping the feet and legs warm. In the morning, just previous to operating, the vagina should again be scrubbed

as before and then flushed out thoroughly with a 1:2000 solu-

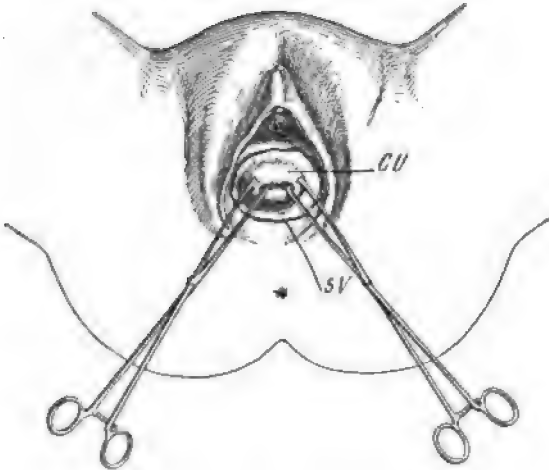


FIG. 1.—Showing the manner of seizing the cervix with the five-toothed volsella, and the circular incision around the cervix at the vaginal insertion. (The anterior and perineal retractors, which should be in place, are not shown.) CU, cervix uteri; SV, line of incision.

tion of bichloride. Catheterize the bladder, shave the pubes,

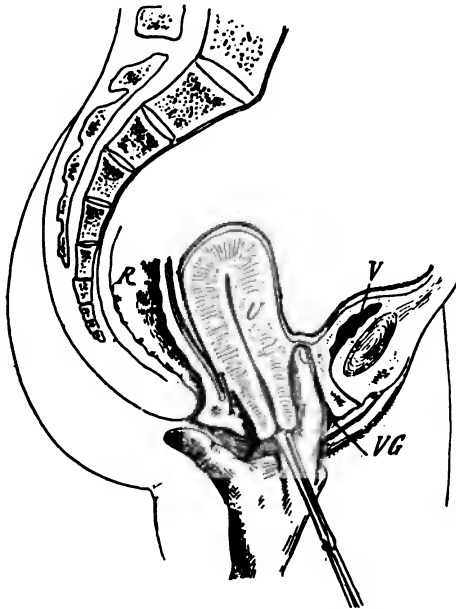


FIG. 2.—Separating the tissues upward with the finger. VG, vagina; R, rectum; U, uterus; V, bladder.

and protect the neighboring parts with gauze wrung out in

1:1000 bichloride. Curette the uterine cavity and inject a solution of ferrum perchloride or other antiseptic astringent; then seize the cervix firmly with a five-toothed forceps; draw it forcibly toward you and down upon the perineal valve (Fig. 9) previously inserted; with curved scissors or the bistoury make a circular incision completely around the cervix just below the vaginal insertion (Fig. 1); with the aid of the finger press the tissues progressively upward until you pass the uterine artery (Fig. 2); with the finger and thumb placed each side of this organ you feel exactly its pulsations, and with the straight

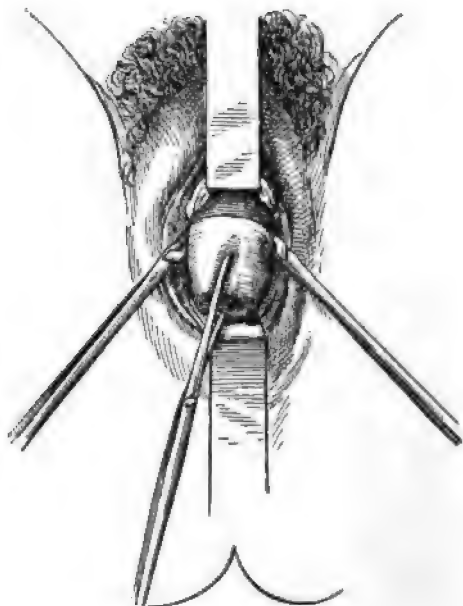


FIG. 3.—Showing tissues pushed up and the straight hemostatic forceps clamping the uterine artery of each side.

hemostatic forceps (Fig. 10) seize and compress it, and sever it by cutting between the forceps and the uterus (Fig. 3). You should be careful to direct the point of the forceps toward the uterus, to avoid comprising the ureter in its grasp. When the uterine arteries of both sides are severed continue the separation of the tissues upward anteriorly and posteriorly until you enter the peritoneal cavity; then advance the anterior retractor, with which your assistant has steadily elevated and protected the bladder in front, into the peritoneal opening and maintain it there.

By splitting the uterus upward in the median line from its cavity outward, anteriorly, you can from time to time seize the

organ higher up by each lip of this incision with your volsella

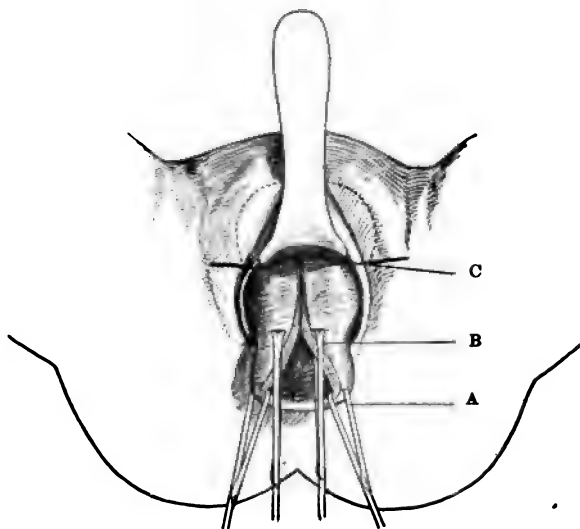


FIG. 4.—Splitting the uterus upward. A, first pair of volsellæ, which remain until uterus is removed; B, second pair of volsellæ, for seizing progressively higher up on the median incision, to antevert the fundus toward the operator. C, opening into the peritoneal cavity. (The clamps which have been placed on the uterine arteries are not shown.)

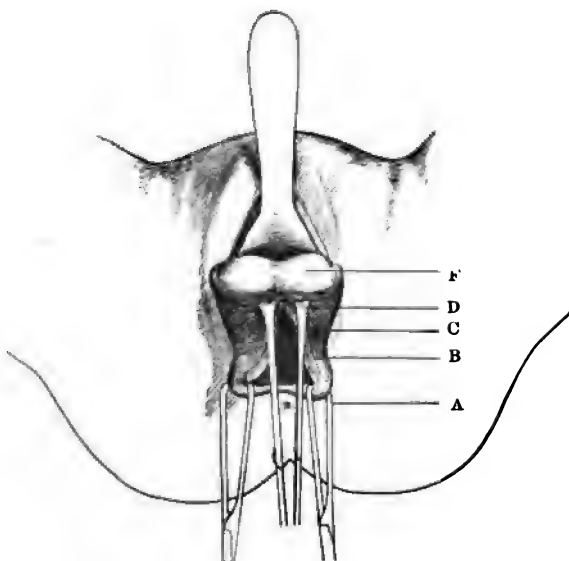


FIG. 5.—The fundus anteverted. B, C, D, progressive points of seizure along the median incision; F, fundus. (The clamps on the uterine arteries are not shown.)

forceps (Fig. 7) and more surely control it in the different

maneuvers (Fig. 4). The point now is to clamp and section the ovarian arteries, and you will find this materially favored if you can antevert the fundus toward you (Figs. 5 and 6). Sometimes the abnormal size and length of the organ renders this difficult or impossible. In this case amputate the cervix to shorten the uterus, and then, if it still refuses to revolve forward, split it into two halves upon the index placed behind the organ to protect the intestine from injury, and bring successively each half forward and clamp the arteries either in front or behind the ovary, as the case may permit. If strong adhesions prevent your drawing the appendages forward to clamp behind the ovary, do not hesitate to leave them. I have seen them abandoned in many

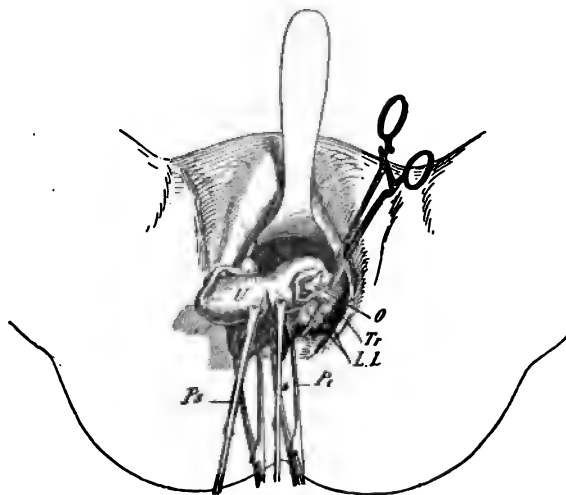


FIG. 6.—Applying the clamp on the ovarian artery from above downward. (The clamps on the uterine, which should appear, are not shown.) U, uterus; O, ovary; Tr, Fallopian tube; Pc, first pair of volsellæ; LL, broad ligament; Ps, second pair of volsellæ.

cases with no evil results. Be careful to never let go with one pair of volsella forceps before placing another pair in position; and also it is important that the points of the hemostatic forceps placed on the uterine and those placed on the ovarian should pass each other, so the broad ligament shall be comprised fully in the two pairs, otherwise you are liable to considerable hemorrhage.

In a non-adherent, uncomplicated case you will ordinarily have four pairs of forceps *in situ* after having extirpated the uterus, but the operation is by no means complete. The posterior section of the vaginal wall, that corresponding to the cul-de-sac of Douglas, always bleeds copiously, and by aid of the

small hemostatic T-forceps of Pozzi you should bring the sectioned peritoneum and that of the vagina together; with the aid of three or four pairs the hemorrhage here will be fully arrested. Then you should spread out the border of the broad ligament and place a pair of small forceps on every bleeding point. The aim is not to leave the slightest oozing, not for fear of any danger to the patient from hemorrhage, but to protect her from the danger of infection, as blood is one of the best of culture mediums for germs.

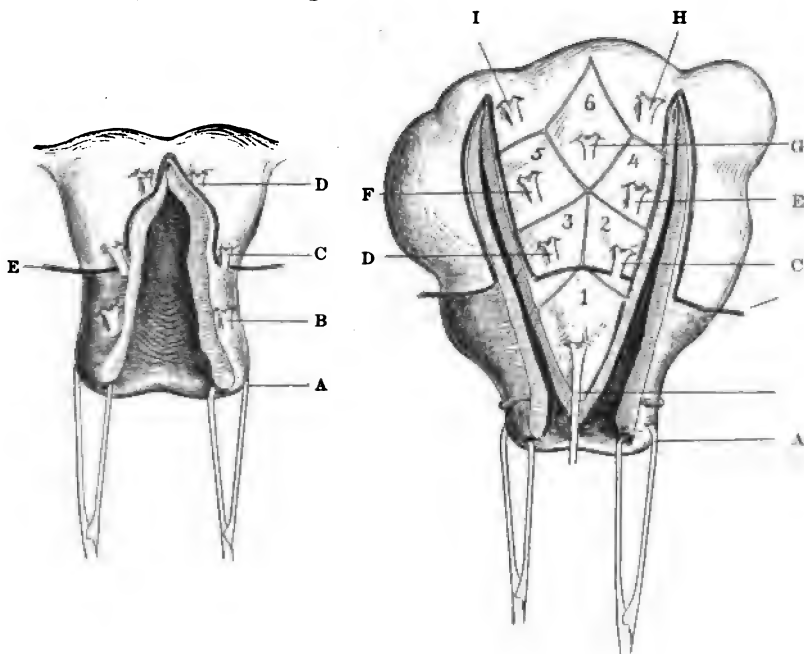


FIG. 7.

FIG. 8.

FIG. 7.—Scheme. A, volsella first applied and maintained; B, C, D, successive positions of the second pair of volsellæ; E, anterior peritoneal cul-de-sac.

FIG. 8.—Scheme showing the morcellation method for removal of a fibromatous uterus through the vagina. A, volsella first applied; 1 to 6, successive portions removed from anterior wall; B to I, successive positions of volsella.

If the case is one demanding drainage, place two or three strips of iodoform gauze together and with dressing forceps carry these ends just beyond the sectioned border into the peritoneal cavity; then pack the centre of the vaginal opening between the forceps clear down to the vulva with iodoform gauze, and also around between the forceps and vaginal walls, to protect the tissues from erosion. Place a rubber T-self-retaining catheter in the bladder, cover all over with cotton and a

T-bandage, and place the patient in bed, putting a round bolster just below the thighs, upon which to rest the projecting ends of the forceps to relieve the parts and the patient of their weight.

The forceps are removed at the end of forty-eight hours, and the patient's bowels should be moved by enema the third day. The patient is kept rigorously in the recumbent position for twenty-one days with daily dressing of the parts. The wound contracts and cicatrizes completely, pushing a stump of cicatricial tissue inward which acts as a sort of pessary support to the abdominal contents.

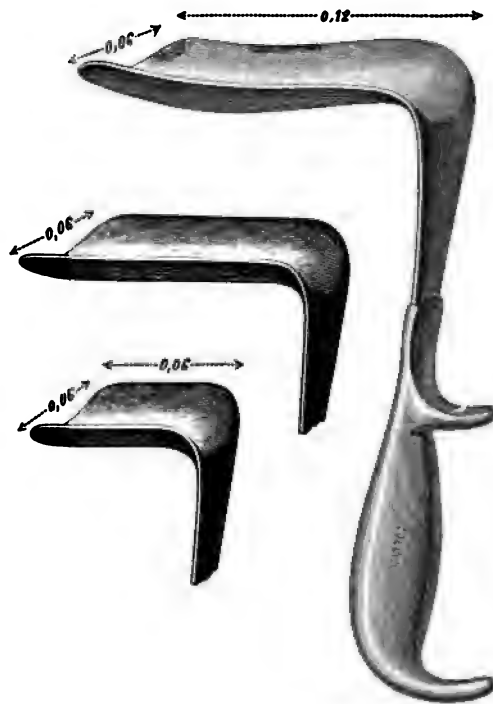


FIG. 9.—Perineal retractors. Width, 0.060 millimetre. Length, 0.06, 0.09, 0.12 centimetre.

I have yet to see the first case of hernia following this operation.

As might naturally be inferred from the animated discussion cited in the Paris Society of Surgery, there is a set of eminent surgeons in France who are opposed to this operation, as against a greater number of equally celebrated advocates of it, and then the conservative men who take the middle ground and do both ; of this last my eminent master, Prof. Pozzi, is one of

the leaders. In an article¹ he declares the following as his indications for the operation :

1. Diffuse, chronic suppuration involving the periuterine tissues and appendages, where the ablation of a limited pocket would result in little benefit or is impracticable.
2. Multiplied adhesions resulting from chronic disease, forming a mass of the organs, but non-suppurative.
3. Abdominal fistula which resists cure by curettement, dilatation, or operation seeking to find the suture that caused it.
4. Painful tumors of the adnexa following celiotomy.

Prof. Richelot, in addition to the above, advocates vaginal

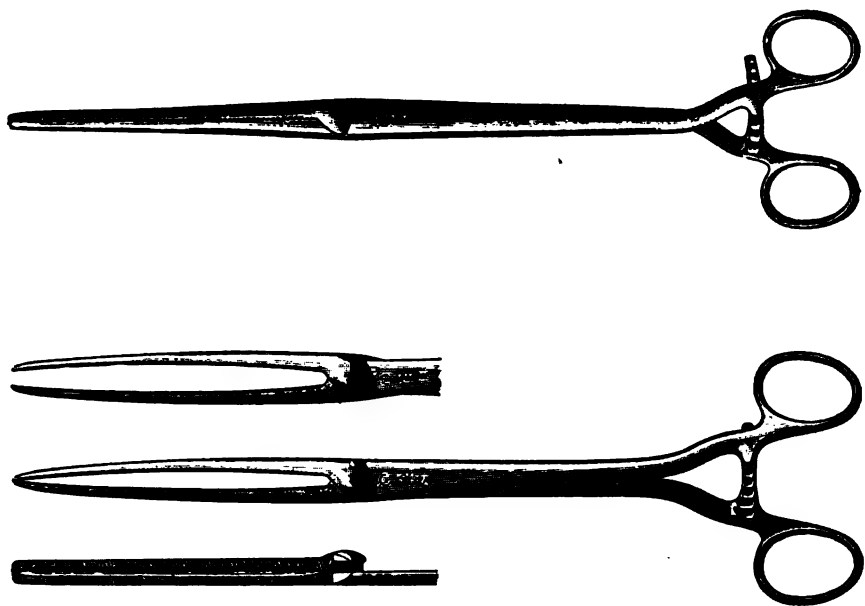


FIG. 10.—Model of clamps for vaginal hysterectomy.

hysterectomy for bilateral pus tubes ; retroversion with firm adhesions and prolapsed and diseased ovaries ; long-standing metrites with double ovaritis ; pelvic neuralgia resisting all other treatment. In his book published in March, 1894,² he describes most happy results in certain selected cases of this kind.

In Richelot's communication before the Congress at Brussels, September, 1892, he reports 134 operations for lesions other than cancer, with 9 deaths (6.7 per cent) ; Ségond, at the same

¹ *Annales de Gynécologie et d'Obstétrique*, 1893, p. 504.

² " *L'Hystérectomie Vaginale*," Paris, 1894, O. Doin, éditeur.

Congress, 102 with 11 deaths (10.7 per cent); Péan, at the same Congress, 90 cases with 1 death. Doyen published in 1893 a résumé of 61 cases with 3 deaths. Jacobs published 166 cases in March, 1894, with 4 deaths. Pozzi, up to January, 1894, had 14 cases with no deaths. In my own experience I have operated upon 21 cases with 2 deaths. The most remarkable statistics are the 144 cases of Richelot spoken of, with no deaths.

It may be safely said that vaginal hysterectomy for lesions exclusive of neoplasm, in the hands of the well-known operators of to day, gives a mortality of four per cent.

When I first entered the hospital service in Paris I was constitutionally opposed to vaginal hysterectomy. It appeared to me to be an inhuman and brutal operation. My opposition was fostered by being attached to one of the most celebrated laparatomists in Europe, Prof. Pozzi, who is justly celebrated as being one of the most expert operators of the present day. It is only natural that the personality of such a man, who is worshipped by those around him, should render difficult an unprejudiced consideration of the methods of other men; but the more I have seen of this operation in the hands of such masters as Richelot, Terrier, Bouilly, Ségond, Le Dentu, Quénu, Péan, Lucas-Championnière, and Aubeau, as well as Pozzi, the more I have been compelled to recognize its utility, until I now look upon it as one of the most benign procedures known to gynecology for certain limited conditions.

BRADBURY BUILDING.

THE RELATION OF MALIGNANT DISEASE OF THE ADNEXA TO THE PRIMARY INVASION OF THE UTERUS.¹

BY

AUGUSTUS P. CLARKE, A.M., M.D.,
Cambridge, Mass.

It has come more and more from clinical observation and experience to be believed that the appearance of malignant disease of the tubes is the direct result of the extension of the morbid processes from the corporeal endometrium of the uterus. The invasion of the oviducts through the lymphatics may take place, but such an attack is for the most part a rare

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

event. The extension of cancerous disease from the ovary to the tube is also of comparatively infrequent occurrence. The development of primary epithelioma of the mucosa of the tube may take place, but when it does occur it is more likely to be secondary to papillary adenoma of the tube itself. Carcinoma that takes place in the ovary presents two forms: (1) the primary development of ovarian carcinomatous foci; (2) carcinomatous degeneration of ovarian cystomata. The latter may occur in the form of papillary degeneration or with the appearance of a carcinomatous transformation of the glandular tissue surrounding or involving a cystoma. In connection with cancerous invasion of the ovary, the mesenteric, omental, or other tissues may become affected, so also may the glandular structures in the retroperitoneal spaces undergo serious involvement.

While it has often been conceded that the stromal element of the ovarium furnishes a suitable nidus for the growth of malignant rudiments, the question very properly arises whether such a development occurs for the most part from original embryonic implantation of cells or from secondary changes through infiltration of the surrounding structures. A case of a papillomatous neoplasm that recently occurred in my practice presented indications that the invasion was originally uterine in character; at a later period the symptoms showed that the disease had reached the tubal and ovarian structures, which afterward underwent more rapidly cancerous degenerative changes than did the tissues of the uterus. The histological appearances of epithelioma occurring in the tube, and bearing such a striking resemblance to the manifestation of the changes that are developed by cancer in the corporeal endometrium, force one almost to the conclusion that the morbid processes thus engendered are secondary to those resulting from the uterine invasion. The rareness with which sarcoma is met with in the tube is significant. Though this neoplasm in the uterus is not so frequently observed as cancer, it is not uncommonly found in the uterine endometrium. The lower segment of the uterus, as well as the stroma of that organ, does not furnish a nidus particularly congenial for its habitat; placental fragments and hyperplastic villousities are too remote for affording a starting point for its development. The same may be said, in most instances, of the structures of the adnexa. It is only when sarcoma has gained admission into the uterine tissue that the progress of its extension, either by papillary proliferation or by the fragmentation

of its elements toward the structures of the tube and ovary beyond, will be likely to take place. The cases which have occurred in my own practice, as well as those that have been observed by others, would seem to justify the conclusions here reached.

Sarcoma may occur in the pelvic cellular tissue; so also it may originate in the mesentery and in the tissue posterior to the uterus, and involve the ovary, as it did in a case of one of my own patients; these cases occurring, however, so infrequently, their discussion in this connection can hardly be deemed worthy of introduction. Those cases sometimes denominated fibro-sarcoma, myxo-sarcoma, and adeno-sarcoma of the ovary do not primarily present any purely sarcomatous element; they exhibit such characteristics only after having assumed a malignant or a degenerative change. Sarcoma of the ovary may either be of the spindle-celled or of the round-celled variety. The former has its origin in the stroma of the connective tissue. In this respect its histological features are not unlike the embryonic and rudimental developments appearing in the structures of the corporeal portion of the uterus, where the growth is more generally observed. The rapidity with which the formation of the neoplasm takes place, the tendency toward the supervention of ascites and peritoneal involvement, demand early removal of the disease. A review of the records of my cases shows that the morbid processes had pre-existed in the uterus. In one case in particular it was easy to observe that soon after the invasion of the spindle-celled elements had reached the ovarian stroma, symptoms of irritation of the pelvic tissue became marked and the cachexia of a malignant growth appeared. The autopsy showed that the sarcomatous elements were comparatively innocuous while they were confined to the stroma of the corporeal portion of the uterus.

As before remarked, sarcoma may appear as the spindle-celled or as the round-celled variety. The spindle-celled is more commonly found in the parenchyma of the organ; the round celled variety forms what is known as the diffuse sarcomatous growths of the connective tissue of the uterine mucosa. These soft, papillary neoplasms are liable to implicate the entire uterine mucous surface, and even to extend into or toward the parietes of the organ and to involve the peritoneal and the intestinal structures. This form of a sarcoma rarely advances toward the ovary. The round-celled sarcoma belongs to the class that may reach or develop in the connective tissue of the

ovarian stroma. This texture of the ovary seems to offer at times a peculiar pabulum for its development. In some instances the tumor of the ovary assumes a rapid increase in its dimensions. In such cases the sarcomatous elements will be found deeply embedded or disseminated in the parenchymal portion of the uterus. In one of the two cases of sarcoma of the ovary of this class that came under my care the presence of the spindle-celled element in the deeper structures of the uterus was very distinct. In the record of a case of an autopsy which I assisted the medical examiner, the late Dr. A. F. Holt, in making, I find that there were spindle-celled growths in both ovaries and that nodular masses of sarcomatous tissue were deeply infiltrating the uterine structures. I regret that in the record of this case I did not preserve a more detailed history of the occurrence of the symptoms. Suffice it to say that the patient had suffered to a considerable extent before the rapidly fatal pathognomonic signs supervened.

As before remarked, cancer of the ovary is in large measure secondary to cancer of the uterus. The ovarian cancer that has been thought to be primary has appeared either as a diffuse infiltration of the stroma of the ovarium, advancing or penetrating into the follicular epithelium of Pflüger's tubules, or as a papillary proliferation of the periphery of the organ. The former variety somewhat resembles sarcoma in its characteristic features by the burying of its club-shaped roots deep into the stromal texture of the ovary. These morbid processes lead to the destruction of the organ by its splitting apart, that causes to ensue an undue pressure upon its normal elements. Scirrhus is another form of cancer which may take place in the ovary. Both cancer and sarcoma of the ovary should be regarded as secondary formations. The epithelial form of cancer having its starting point in the mucosa of the cervix or of the lower segment of the uterus, and sarcoma for the most part beginning in the deep connective tissue of the fundal portion of the uterus, are disease processes that may take on a progressive stage and be productive of an involvement of one or both ovaries. This view here taken is not dissimilar to the conclusion once reached by Emmet, who said that "when the ovaries (in such cases) are implicated it is, as it were, the last stage of some contiguous disease in which the rest of the pelvic tissue will have already been involved." When carcinoma originates in the glandular element of the uterine mucous tissue, it may rapidly give rise to polypoid degeneration of the

endometrium and to metastatic nodules and centres of infection in the appendages. Carcinoma developing upon uterine adenomatous growths may extend to the ovaries as well as to the tubes, as before mentioned. An early recognition of the relationship of these progressive morbid processes should have a wider significance than what may be appreciated merely by the microscopist or pathologist. In these days, when experience shows with what safety many morbid growths can be removed by vaginal or abdominal section, our attention should be directed toward every point in the field of operative measures that offers a vantage ground. The record of cases thus far made shows that the removal of malignant tumors by salpingo-oophorectomy is far from being satisfactory. The recrudescence of the growths is almost certain to follow. Nothing short of a resort to total hysterectomy for removal of malignant affections of the adnexa will give promise of obtaining successful results. This method of proceeding is especially indicated when the cancerous disease has appeared in the epithelium of the follicles connected with Pflüger's ducts. In such cases, though it may be quite difficult to make a differential diagnosis, still the surgeon can feel tolerably sure that in the absence of peritoneal involvement or of omental invasion, of rectal complication or of post-uterine infection, the malignant process has had its origin in some portion of the uterine tissue ; when these untoward factors do not exist, if the development appearing in the uterine appendages is sarcomatous the indications will point to the central or the fundal portion of the uterus as being the original seat of the disease.

Another consideration of much practical importance should not be lost sight of, as may be better appreciated in those cases of malignant disease in which vaginal hysterectomy is sometimes resorted to. In many of those cases the adnexa may not, in whole or in part, be removed, on account of adhesions formed or peculiar relations existing in those organs. When the appendages thus left have been also the foci of malignant invasion the disease will take on almost immediately a renewed activity, as occurred January last in a case that came under my observation. In such desperate cases abdominal hysterectomy, including the adnexa, will be found to offer the surgical measure most likely to be attended with success. Assuming, as we may, that cancer appearing in the ovary is sometimes a primary development, total hysterectomy, when the case can be seen at an early date, presents the best chances for success. If the

infiltration of the base of the growth extends into the deep pelvic cellular tissue or into the broad ligament, operative procedure, of course, can scarcely be of much avail. Most of the cases of ovarian carcinoma, however, that have been held to have had their primary seat in that organ would seem to have been so regarded on account of the respect that may have been necessary to be paid to the dictum of the older authors. It cannot be too strongly emphasized that a lacerated cervix, the result of parturient processes, furnishes surfaces favorable to the development of malignant neoplasms; this condition of the cervix is especially adapted to the growth of epithelioma or papillomatous formation. Fibromyomata appearing in the corporeal portion of the uterus are liable to take on degenerative changes and become the centre for malignant infection, which may penetrate the structures immediately surrounding or be extended to the appendages above.

825 MASSACHUSETTS AVENUE.

REPORTS OF SOME INTERESTING CASES.

IMPACTED PESSARY—VAGINAL SECTION WITH HEMORRHAGE—CESAREAN SECTION.

BY

A. BROTHERS, B.S., M.D.,

Instructor in Gynecology at the Post-Graduate Medical School and Hospital;
 Attending Gynecologist to the New Yorker Frauenklinik; Visiting
 Gynecologist to Beth Israel Hospital,
 New York.

CASE I. *Impacted Pessary.*—A dispensary patient, aged 54, presented herself in order to have a pessary extracted. She was a slim, ignorant, elderly woman, who had passed the menopause a number of years previously. Two years ago, she stated, the pessary had been introduced for the relief of prolapsus.

Local inspection revealed external genitals in an advanced stage of atrophy. With the aid of fingers and sight a black, circular pessary, with a probable diameter of two and a half inches, was discovered. It had evidently once been soft rubber, but it was now as hard as wood. Through its lumen the cervix could be felt. It was movable on all sides excepting the right, where, for a third of its circumference, it was buried in

a layer of granulation tissue a quarter of an inch thick. During manipulation these granulations bled freely. Attempts to extricate the pessary failed, because it was much too large for the narrow vulva in front, and because it was firmly embedded in the right half of the vagina. Efforts to squeeze the pessary failed, because the original rubber had long since lost its elasticity, and even scissors made no impression on it. She was told to come to the operating room, where an anesthetic could be given (as she suffered considerably during the manipulations), but she took fright at the suggestion and left. I have since heard nothing of her.

The case is interesting because of, first, the hardening process which the pessary underwent after two years' continuous wear; secondly, because of the evident ulceration due to pressure of the right vaginal wall, with ultimate formation of granulation tissue in which a portion of the pessary became buried; and, thirdly, because of the hyperinvolution of the vulva and vagina, which, after the lapse of two years, was sufficient to completely prevent the removal of the pessary at its loose portion.

CASE II. *Vaginal Section with Hemorrhage necessitating an Abdominal Section at the same sitting.*—Mrs. H. B., æt. 28, married four years; three years ago a miscarriage at three months, not pregnant since. Menstrual history normal up to the time of the miscarriage, from which time she dates her troubles. Since this event she has been troubled with metrorrhagia, her periods recurring every two or three weeks, with considerable losses of blood. During these three years, in spite of faithful treatment, she has been constantly tortured with pains in the back and left side. She begs for operative relief, as she is tired of douches and tampons, but would not like to be made sterile.

On local examination the uterus was found strongly retroflexed and bound down by adhesions. The left ovary was found enlarged to the size of a small apple, hard, sensitive, and closely attached to the lower segment of the uterus. Nothing abnormal on the right side was noted.

Under ether the diagnosis was confirmed. After curetting the uterine cavity and packing with gauze, anterior colpotomy with a longitudinal incision was done. There was considerable oozing from the vaginal wound, and difficulty in dislocating the bladder upward. Some time was spent in breaking up the posterior adhesions and placing the uterus in a position

of ante flexion with the fundus protruding from the vaginal wound. The right adnexa were examined, found to be normal, and were not further molested. On the left side the Fallopian tube was enlarged to the thickness of an index finger and intimately attached to an ovarian cyst the size of a crab-apple. Both tube and ovary were firmly embedded in adhesions, so that in shelling them out the tube was lacerated and the cyst ruptured. A silk ligature was passed around the base of the mass (a Lawson Tait knot being made) and the diseased structures cut off with scissors. There was considerable oozing at the time, apparently from the region of the infundibulo-pelvic ligament. The tissues in this region were seized with a clamp, beneath which sutures were passed. The bleeding continuing, a continuous ligature was run over the stump at the uterine cornua. It was now thought that the hemorrhage was fully under control. On replacing the uterus, however, there was a fresh gush of blood. The question to determine was whether the bleeding came from the torn adhesions behind the uterus, or from the ovarian artery which had perhaps escaped from its surrounding ligature. Repeated sponging and pressure with gauze during several minutes failed to clear the field for inspection.

In order to control the hemorrhage we were now confronted with one of two alternatives. The first was the total removal of the uterus from below—an operation on which neither the patient nor myself had reckoned. The second alternative was to open from above, seek the seat of hemorrhage, and treat it according to conditions present. I decided on the latter plan. Rapidly passing a large strip of gauze through the vaginal wound and placing it with the fingers above and behind the uterus, I filled up the rest of the wound and vagina tightly with more gauze. Elevating the patient into an improvised Trendelenburg posture—we were operating at the patient's house—the abdomen, which had already been previously thoroughly disinfected, was again scrubbed and prepared antiseptically. In a very few minutes the peritoneal cavity was laid open from above. A hasty glance sufficed to show that there was no active hemorrhage going on now. The stump was brought up into the wound and examined, but showed no bleeding points. Evidently the hemorrhage had come from the torn adhesions behind the uterus and was now fully controlled by the packing inserted from below. Under these circumstances it was decided to leave well enough alone. The abdominal wound was carefully closed and the patient put to

bed. The patient's pulse at the end of the operation was 76 to the minute and of excellent quality. The three operations—curettage, vaginal section, laparotomy—had consumed less than an hour and a quarter. The subsequent history of the case was uneventful, and the patient was out of bed after twenty-one days. Two months later she reported a marked gain in weight and said she had never felt so well in years. All her pains were gone and the wounds had long since thoroughly healed.

This case suggests a few reflections. In the first place, operation per vaginam on diseased adnexa can never be an ideal method, because our field of view is limited. Surgical work, to be perfect, requires a clear view at every step and a "dry" wound at its termination. This guarantees us against that serious bugbear, hemorrhage during and after an operation. I have witnessed such skilful operators as Polk, Boldt, and Jacobs put to their full mettle on account of hemorrhage from some almost inaccessible vessels during vaginal operations. I have seen them resort to pressure by gauze or clamps because ligatures could not be applied. While these latter procedures generally serve their purpose, still they are not ideally surgical or an absolute guarantee against secondary hemorrhage.

There can be no question, however, that for the patient this route offers the best safeguard against shock and sepsis. In more than a dozen operations in which a diseased uterus or adnexa were removed by me by this route, recovery was uniform. Still, because of the difficulties in certain cases to the operator, I never undertake to work by this route without preparing the abdomen (and usually the patient too) for a possible incision from above. In the case narrated, for instance, I unexpectedly met with hemorrhage so considerable and inaccessible as to justify me in seeking its source from above. In similar cases of inaccessible hemorrhage during vaginal work I know, from reading or personal communication, that operators like Fehling, Boldt, Vineberg, and Marx have been obliged to resort to abdominal section or hysterectomy in order to save their patients from death due to uncontrollable hemorrhage. Hence these operations ought not to be undertaken unless one is prepared to control hemorrhage through an incision from above or by the additional performance of a hysterectomy from below. Of the two alternatives I believe the former to be more justifiable; for, although a woman may be willing to have a diseased tube and ovary removed, it is an entirely different matter to remove all of her organs of genera-

tion. Still, I can imagine that in elderly persons or those approaching the menopause the additional removal of the uterus would not be very objectionable.

CASE III. *Cesarean Section for Eclampsia in a Moribund Woman, with Fatal Result.*—Many authorities are opposed to Cesarean section in eclampsia, and I have myself hitherto always resorted to hastening the delivery of the child through the normal passages. In the present case, however, after several hours of conscientious effort by three other physicians besides myself, the extreme rigidity of the os prevented its enlargement by digital dilatation beyond the size of a silver quarter. As the woman was practically moribund, we decided on Cesarean section as a last resort.

Halbertsma reports fourteen Cesarean sections for eclampsia, of which two were done on dying patients. Deducting these two, he states that of the remaining twelve there were four deaths—a mortality of 33.3 per cent. After accouchement forcé the mortality is, according to Charpentier, said to be 40.7 per cent. Hence the Cesarean section—if operative interference is at all indicated—is at least justifiable. As my operation was done on a practically dying woman, it may or may not be considered of value from a statistical standpoint. Personally I believe the case was hopeless—as explained to the relatives at the time—under any form of treatment, but we decided to give her the benefit of the doubt. The history in brief is as follows:

Mrs. M., æt. 24, primipara. I was called to this case at midnight by Dr. S. Mosesson, and an hour later we were joined by Dr. H. Levien. According to the history the woman was at the end of pregnancy. That morning she complained of headache, heaviness in the head, and blurred vision which rapidly passed into complete loss of sight. Dr. Mosesson suspected uremia and the urine showed twenty-five per cent of albumin. By noon she developed eclamptic convulsions and passed into a state of coma, from which she never emerged. A curious feature in the history is that her mother and certain relatives had also given birth to children in the eclamptic state.

During the day and night previous to my arrival she had been treated medicinally, chiefly with chloral, by Drs. Mosesson and Levien, without modifying the patient's condition. Toward midnight the convulsions were so frequently repeated that she was kept continuously under the influence of chloroform. During the day the os admitted the index finger, but as there were no labor pains its size was unchanged at midnight, al-

though the internal os was obliterated. I suggested the use of tincture of *veratrum viride* (Norwood) in ten-minim doses, and this was given from now on, at varying intervals, hypodermatically. We proceeded next to dilate the cervix and deliver the child. At this time (midnight) the woman was in a condition of profound coma alternating with periods of partial convulsive rigidity and jactitation. Her temperature was $103\frac{1}{2}^{\circ}$ (axillary); respiration 48, sighing and irregular, interrupted by occasional moans; pulse 120 and of fair quality.

The three of us decided to alternate in stretching the os with the fingers. It was possible to begin with one finger and, after some time, introduce a second. Beyond this point no progress could be made. Such a tetanically rigid os externum I have never met before. During the manipulations the membranes were unintentionally ruptured by one of the gentlemen. The child's head—which lay in a lateral vertex position, allowing the ear, nose, and eye to be felt to the right side—became tightly jammed against the tetanized os, rendering efforts at dilatation all the more difficult. After working an hour and a half the os was not larger than a silver quarter and we were thoroughly tired out. The patient's surroundings were dingy and cramped. The patient's pulse, in spite of *veratrum viride*, was now 140 per minute, convulsions recurred as soon as the chloroform was let up, and we decided that the prognosis was hopeless if left to Nature and spontaneous labor. The only possible chance lay in a rapid removal of the child from the uterus. At 2 A.M. we urged removal of the case to the hospital, and at 3 o'clock the patient was on the operating table.

The child's heart was no longer audible, but there was a possibility of its being alive. Dr. B. Gordon, to whom I am indebted for valuable assistance in the case, again attempted digital dilatation, but after a quarter of an hour concluded that there was nothing to be gained in this direction. The method of Dührssen, by incisions in the cervix, was considered, but, for reasons affecting the child as well as the mother, renounced in favor of Cesarean section.

At 3:15 A.M. the temperature (axillary) was $102\frac{1}{2}^{\circ}$; the pulse was 140, small and thready. The vagina was disinfected and packed with gauze. After preparing the skin of the abdomen a longitudinal incision, about ten inches in length, with the umbilicus as the central point, was made through the thick abdominal wall. There was no hemorrhage to notice, because of the patient's poor circulation. The uterus was turned out

of the wound and surrounded with hot sterilized towels. A rubber tube was next passed about the cervix anterior to the child's head and secured. A longitudinal incision was next made through the uterine wall with very little bleeding. On opening the amniotic sac the child's feet were seized and the child easily extracted. It was asphyxiated and, in spite of the prolonged efforts of my assistants, it could not be resuscitated. Ergot was given hypodermatically. Within ten minutes the uterus had contracted to one-half of its former size. The placenta, which was attached posteriorly, was now peeled out. There was practically no hemorrhage. A strip of iodoformized gauze was placed in the uterine cavity and its end pushed through the cervix into the vagina. With two layers of catgut sutures—deep and superficial—the uterine wound was closed. On removing the rubber tube slight oozing of blood was noted from the stitch holes. The peritoneal cavity was neither washed nor drained. The abdominal incision was closed with worm-gut sutures.

At the close of the operation, which consumed about three-quarters of an hour, the patient was found to be in a bad condition. The pulse counted 150 and was barely perceptible. Temperature was $102\frac{1}{2}^{\circ}$ F. About a pint of normal salt solution was injected subcutaneously. Hypodermatics of nitroglycerin, strychnine, ether, and brandy were freely used. Oxygen was called into use. The uterus had contracted nicely, and, with the first evidences of a slight rally, the patient was put to bed with the head low and hot bottles to the extremities.

As the patient emerged from the influence of the anesthetic, jactitations with rigidity of the upper extremities again came on. About a half hour after the operation the patient was seized with a violent eclamptic convulsion which lasted several minutes. An hour later, after constant jactitation for which the patient had to be fastened to the bed, she had another violent convulsive seizure. About 8 A.M., after a number of similar attacks, the nurse drew off four ounces of urine, but carelessly threw it away. A later specimen became almost solid on heating and the addition of nitric acid. Hypodermatic injections were kept up at frequent intervals. Occasionally the patient would open her eyes and seem to be partly conscious. At 12 o'clock the pulse counted 150 and was barely perceptible. An intravenous injection of more than a pint of normal salt solution was given. Again the pulse seemed to improve in quality for a time. After having two more violent convulsions the patient died at 3 P.M., or eleven hours after the operation.

The autopsy showed adhesion of the abdominal wound, some blood in the peritoneal cavity, loosening of a number of the uterine sutures, parenchymatous inflammation of both kidneys, and congestion of the brain.

The case is interesting from a negative standpoint, as proving that the mere emptying of the uterus by section is not sufficient to control or prevent the recurrence of the eclamptic seizures. The loosening of the uterine ligatures was evidently caused by the violence of the patient's movements during the jactitations and convulsions. Even three knots were not sufficient to prevent such loosening, so that in a future case I should entirely discard catgut and resort to silk.

The only question which can arise, in reviewing the history of the case, is whether incisions of the cervix might not have rendered the prognosis more hopeful. In regard to them we doubted whether the child lived, and such a procedure would certainly have sealed its fate through the inevitable craniotomy which would have to be done. Again, in the interests of the mother, the incisions subjected her to the risk of uterine rupture through a further tearing of the cuts; and, besides, the length of time necessary to deliver in this manner seemed to indicate, in her collapsed state, a probable death on the operating table before the extraction of the child could be accomplished. Under these circumstances we concluded in favor of a rapid delivery through Cesarean section.

162 MADISON STREET.

MOVABLE KIDNEY.¹

LOCAL AND REMOTE RESULTS.

BY

A. H. CORDIER, M.D.,

Profesoor of Abdominal Surgery, Kansas City Medical College; Vice-President
American Association of Obstetricians and Gynecologists; President
Tri-State Medical Society, etc., etc.,
Kansas City, Mo.

ANY tumor or organ in the abdominal cavity capable of being moved over a large and unnatural area is designated as a floating or movable tumor or organ, according to its range of mobility and relation to the peritoneum. The organ most

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frequently found so displaced is the kidney. Those engaged in abdominal work are frequently asked why there are so many cases of movable kidney to-day, when a few years ago it was rarely heard of. The modern diagnostic technique and late and correct interpretation of manifested symptoms have led to the correct location of the cause, hence the seemingly greater prevalence of this condition. It is an extremely common one.

Many women, no doubt, are about our streets with kidneys on the brink of the true pelvis, and that, too, without a single disturbance, yet the greater majority sooner or later present the "movable kidney syndrome" in a more or less pronounced degree.

It is stated that one out of every five patients examined has a movable kidney. I believe this rate too large, especially if that implies a displacement of pathological significance. Undoubtedly it occurs with greater frequency in women, but not with the relative frequency of twenty to one, as some writers would have us believe. While the rapid absorption of fat and laxity of the abdominal muscles from or following pregnancy are fruitful sources of a displaced kidney, added to which is the pressure of the corset against the liver, and that in turn against the kidney, all aids in displacing a woman's kidney, not occurring in man, it must be remembered that the abdomens of fifty women are examined for every one of men, and that many a movable kidney is discovered by accident and not because the individual presented symptoms directed to the kidney as their source. It remains a fact, however, that the condition is more frequent in women than in men.

While the floating kidney is freely movable, all movable kidneys are not floating. The former is congenital and is extremely rare. With all its mobility it does not, as a rule, give rise to the usual distressing symptoms of the acquired mobility. The congenital form of movable kidney moves freely about in the abdomen, with its long pedicle, as well as the kidney, covered by peritoneum, its serous coverings permitting it to glide about among the intestinal coils with little or no resistance, its pedicle adjusting itself to the surrounding ducts, vessels, etc., etc.; thus it is not as likely to become obstructed as if the mobility was of recent origin. In the great majority of cases the movable kidney is healthy.

The right kidney is most frequently displaced. This, also, is a condition found oftener in women than in men. Gall stones and distended gall bladders are found in women six

times as often as in men. Recognizing this fact, it is reasonable to presume (and it is a fact) that there exists a causative relation between these conditions. Any mechanical obstruction to the free outflow of the bile must of necessity induce changes in this fluid, retained in the gall bladder, favorable to the deposit of its salts and the production of stones. Tight lacing and movable kidney are the factors most frequently found in the production of this defective bile interchange in the gall bladder. In a number of my cases it has been a hard question to determine whether the distended gall bladder or the movable kidney was producing the most distress or demanded the earliest surgical interference.

Mrs. J. C. J., aged 42, nullipara. Three years ago had both uterine appendages removed. Later was operated on for a post-operative hernia. At the time I first saw the case she presented the usual train of symptoms of a movable kidney. (By the way, these were the symptoms she complained of most before her first operation.) She was greatly emaciated and had well-marked Dietel's crises, and accompanying these attacks she usually became slightly jaundiced in addition to presenting uremic symptoms, as headache, nausea, pains in limbs, etc. On examination I could make out the outlines of the kidney, freely movable, and in addition the gall bladder could be felt enlarged and slightly painful on firm pressure. The enlargement of the gall bladder could be made to disappear in a measure, showing that there was not a permanent or complete obstruction of its duct. That no further mistakes be made in her case, I made a small anterior opening over gall bladder and explored it and its duct for stones, but none were found. This incision was closed and the usual lumbar incision made, and the movable kidney anchored with three silk sutures to the fascia and muscles. Since the operation all her gall-bladder symptoms have disappeared, and her appetite, digestion, and assimilation have greatly improved, and she writes me that she feels better than she has for years.

In her case the pedicle of the movable kidney produced a partial obstruction of the common and cystic ducts, hence the gall-bladder symptoms.

Fenger, in a recent article, recalls the statement made by Landau and Ferrier that "the descent of a movable kidney is the cause of that form of hydronephrosis having its origin in a bending of the ureter, the bending of the ureter taking place at its junction with the pelvis, as at this point the ureter is held

against the posterior abdominal wall by strong connective tissue and does not follow the kidney." The hydronephrosis is first temporary, then permanent, according to the obstinacy of the bend in the ureter to the intra-kidney pelvic pressure. The fluid is usually aseptic, but often in the progress of the case it becomes septic (pyonephrosis).

Dietel's crises in movable kidney are due to a twist in the pedicle. The attacks are characterized by attacks of nausea, severe pain, diminution of urine temporarily, followed by a polyuria. These occur at irregular intervals for an indefinite period. The attacks simulate renal colic, but can usually be diagnosed from that condition by the absence of blood in the urine, and pain passing down the ureter with the descent of the stone.

In or following these crises (Dietel's) the patient suffers from more or less headache, foul tongue, vomiting, and other symptoms of uremia.

In any disease of the kidney that leads to a retardation of the elimination of the products of metabolism, the stomach, in its endeavor to perform this function, excretes this product and acts as a self-poison to its normal function, as manifested by nausea, vomiting, pain, and other dyspeptic symptoms. These symptoms are often mistaken for those accompanying primary disease of the stomach. They may be present without the kidney being involved by any pathological changes, as from a movable or floating kidney. Dilatation of the stomach and movable right kidney are associated in fifty-five per cent of the cases of gastrectasis. Osler seems to think this a mere coincidence, but I believe that any condition associated with another in so large a per cent of cases must have some causal relationship with the other.

During the attack in which the pedicle is constricted or twisted a rapid increase in the size of the mass is noticed, this enlargement being due to a hydronephrosis and increased vascular engorgement. Much the same phenomenon in this respect is noticed in a twisted ovarian cystoma pedicle, except that in the former there is a physiological fluid being poured into the enlargement. A diagnostic point as to whether the symptoms are due to stone or a twisted pedicle is that, as a rule, the pain is not relieved in the latter by assuming the recumbent posture or by replacing the misplaced organ if detected in an abnormal position. In movable kidney, with the subsidence of the Dietel's crises the urine is not bloody as a rule ; it

may even be limpid and of a low specific gravity. These symptoms of torsion may, if the bending or twisting of the pedicle be firm enough, assume a most alarming character. A patient with strangled ureter and renal vessels will present symptoms of shock or collapse in proportion, as a rule, to the completeness and duration of the strangulation. The alarming symptoms disappear quickly if the kidney is replaced, differing in this respect from all other suspected conditions that may produce very similar symptoms pointing to that locality as their source. A movable kidney is often detected by the careful diagnostician when it would escape the notice of one not systematic in his work, and it is from this reason that I think this condition is discovered so frequently by those devoting special attention to abdominal and gynecic surgery. We should be cautious in making a diagnosis of movable kidney in a patient slightly advanced in years who presents symptoms of gastric disturbance, as these symptoms are diagnostic of a pyloric cancer as well as movable kidney. Especially should extreme caution be used in the physical examination, as an early malignant pyloric growth may be found freely movable at or below the umbilical region. The usual history of changed gastric secretions, especially those vomited, age of patient, pain on taking food, and character and persistence of pain are sufficiently diagnostic to point to the stomach as their true source. Gall-bladder enlargement must be eliminated. This is best done by noticing that the enlargement cannot be made to disappear under pressure and that it is at the gall-bladder site at the edge of the liver. Absence of tympanitic resonance in front of the bladder is usual with the movable kidney. If the gall bladder is freely movable its pedicle will be found attached at the diagnostic point. Its movement with the breathing will be synchronous with that of the liver and diaphragm. Symptoms of gall-bladder pathology will be found in the case, such as biliary colic, differing very much in severity from the pain of a movable kidney, even where the gall duct is compressed enough to produce jaundice. A marked feature of the jaundice, when present and due to a movable kidney, is that it is not intense and is of a transient and recurring character with an absence of the usual symptoms of a gastroduodenitis. In many of these cases in thin subjects (and they are usually emaciated) the kidney shape of the suspect is easily made out, and occasionally the renal artery can be felt pulsating at its entrance into the hilum of the organ.

If the displaced organ is anchored at the time of the exami-

nation, a history of inflammatory attacks in that locality can usually be elicited. The colon resonance is usually to the inner side or in front of the kidney. The corset lobe of the liver may be misleading, but its continuance from lower border of liver, both on palpation and percussion (dulness), and the thin, sharp edge, are characteristics belonging to this rare condition that are sufficiently diagnostic.

Cancer of the head of the colon in its early history, or before its extension to surrounding organs anchors the cecum, may easily be mistaken for a movable kidney if the examiner is not thorough in his diagnosis. A cancer in this locality is usually accompanied by pain of a different character from that of movable kidney, being more continuous. Gaseous and fecal obstructive symptoms are usually present. One symptom alone, when present, is almost diagnostic in its importance. I refer to the alternating increase and diminution of the size of the growth and the slight changing of its location during the examination of the mass, this being brought about by the vermicular intestinal movements and relative quantity of gas present in the cecum.

The long axis of the kidney is generally vertical, and the kidney shape can usually be made out. Kidney resistance is greater than that of gall-bladder or other fluid enlargements.

An elongated fluid tumor in line of the ureter, that comes and goes, is always a hydro- or pyonephrosis. The urinary analysis and ureteral catheterization will assist in making a correct diagnosis.

Fecal impaction or foreign bodies in colon may be misleading in their appearance, shape, mobility, consistence, and history, but a close inquiry into the history will usually reveal an absence of many of the diagnostic symptoms of movable kidney, and the presence of indications pointing to the colon as their source. On physical examination foreign bodies in the colon will not have the same range in mobility, will not cause symptoms to disappear by pushing the mass up under the liver, and if the body can be moved in the gut it does not return to its original site on assuming the erect or other posture. The sensations of faintness and pain are not produced by handling an intestinal mass. There will be no history of transient enlargement in the mass during the menstrual period, as is often the case in movable kidney.

A movable kidney may be mistaken for an appendicular abscess or inflammation of the appendix. Fenger reports such

a case as occurring in his practice years ago, before the pathology of appendiceal disease was understood. Appendicular disease occasionally runs a mild course without any elevation of pulse or temperature. This and the location of the pain, especially if the appendix is post-cecal, may be very misleading; but here, as in all abdominal diagnoses, the history must give way to the physical examination, and the deductions as to the location and character of the pathology principally made from the latter. If all abdominal diagnoses were governed by this rule fewer mistakes would be made, and the necessity for exploratory openings would be less frequent in the hands of men who should be diagnosticians as well as mechanics. A careful diagnostician and good pathologist will not, as a rule, have any difficulty in differentiating a movable kidney from appendicular disease.

In two of my cases a cramping in the muscles on the plantar surface of the foot was a marked symptom, and cannot be explained on the theory that systemic uremic poisoning produced the spasms, as in both cases the kidney function was not perceptibly impeded in the least. The spinal and sympathetic anastomosis is the most acceptable. In both cases these symptoms disappeared after a nephrorrhaphy.

On pressure a sickening pain is produced, very similar to that made by firm pressure on the ovary or testicle. A sensation similar to that produced by shooting a plum seed from between the fingers may be elicited by the examiner by grasping the organ between the two hands and pressing them firmly together.

I have noticed in a number of instances that during the menstrual period the kidney enlarges slightly and becomes more painful, and the attacks of nausea and general nervousness are more pronounced. The pain is increased by exercise and is felt in the side affected, often shooting down the inner side of the thigh. A loaded colon, or even a gaseous distension of this bowel, increases the pain. The pain is often referred to the bladder, urethra, labia majora, thighs, and to the inner side of the knee.

In one case the mobility was accompanied by a throbbing in the region of the abdominal aorta, and this vessel's impulse was so plainly felt that an aneurism was suspected and added to the throbbing an indistinct bruit. The resemblance to an aneurism was indeed very striking. While examining this case, having felt the pulsating of the aorta and the seeming enlargement of the vessel at that location, on pressing the kid-

ney into its natural position it was noticed that the pulsation diminished very much and the decrease in the size of the pulsative enlargement was very perceptible. I cannot offer any other explanation of this phenomenon than that the aorta with the vena cava was pulled out of its "bed," or that a slight kinking produced a partial constriction of the aorta (or more likely the vena cava) and a dilatation above or below the point obstructed.

The origin of the right renal vessel is in close contact with the right abdominal brain above, and below the superior and inferior renal plexus are found. It is only necessary to recall the close and free union of the sympathetic branches with the spinal (as the external cutaneous and genito-crural) to understand how and why a kidney dragging on its pedicle may produce pain and uneasiness along the distribution of the filaments of these nerves. A pain referred to the region of distribution of the lower sacral and coccygeal nerves has been quite a frequent symptom in a number of my cases of movable kidney. While the symptoms of movable kidney may be of great assistance in diagnosing these cases, they are not of sufficient significance to be designated pathognomonic. One symptom in particular is of diagnostic import. That is the usual relief of the pain, dragging, and uneasiness on assuming the recumbent posture. This is due to the assuming of its natural position by the displaced organ.

In cases in which transient and recurring jaundice is a marked feature, the question may arise as to whether or not the cholemia be due to a pressure on the duct from without by the taut vessels or to a gall stone in the common duct acting as a ball valve. In arriving at a conclusion the fact must be recalled that in gall-stone jaundice due to a ball-valve stone in the common duct there is almost invariably an elevation of temperature at the time, frequently preceded by a chill due to the absorption of septic material. The presence of a stone in the duct near its entrance into the duodenum usually results in the establishment of an avenue of absorption, and it is just at this locality that lymphatics abound most plentifully. A movable kidney may at the same time be a suppurating kidney, and in that event the elevation of temperature as a diagnostic helper would lose part or all of its value ; but it must be remembered that in a suppurating kidney a history of pyuria can always be obtained where the ureter is patent. If the ureter is occluded, then the kidney tenderness, enlargement, and persistence of

temperature are diagnostic of kidney infection as compared with gall bladder absorption.

Many cases do not demand any interference, as all cases of movable kidney are not accompanied by symptoms of any significance. I have very little faith in the promise of any mechanical support or device for holding the organ in its normal position.

The operation (nephrorrhaphy) for the replacing and holding of the kidney in its natural position offers the greatest prospect of a permanent relief of the symptoms and a restoration of the patient's former good health. Where this fails with repeated efforts, or where the organ is diseased, the question of removal (nephrectomy) is to be considered.

I believe that all are agreed that the extraperitoneal operation is the proper one to perform, unless there exist other complications, intraperitoneal, demanding an investigation or operation, or where the diagnosis as to the exact or all of the pathology is in doubt. When the peritoneum has been opened in front and the true state determined in the doubtful cases, it is best even here to close the anterior incision and anchor the organ through a lumbar opening.

Deductions.—1. A movable kidney often produces a dilated stomach, with all the accompanying symptoms of a disease of the latter.

2. It is a fruitful source of gall stones by the pedicle producing a partial obstruction of the common duct.

3. The bending of the ureter often gives rise to a hydronephrosis. This, in turn, is sometimes converted into a pyonephrosis.

4. It may produce death by a complete strangulation by a torsion of the vessels and ureter.

5. By dragging on the abdominal aorta and kinking of the vena cava, a condition simulating an aneurism of these vessels may be produced.

6. Pain referred to the region of distribution of the spinal nerves is often induced by a movable kidney's disturbance of the abdominal brain.

7. A general nerve exhaustion (neurasthenia) is frequently induced by this condition, interfering with digestion, assimilation, and elimination.

8. Nephrorrhaphy is a safe and effective surgical procedure.

9. All cases of movable kidney, if accompanied by symptoms pointing to the kidney as their source, should be operated upon.

10. In summing the local and remote results of this now often recognized condition, I think the correctness of the deductions has been often demonstrated by the disappearance of each and every symptom after a restoration and retention of the kidney to its normal position.

11. Symptoms are not to be relied upon in making a diagnosis of movable kidney; the physical examination is the only trustworthy guide.

RIALTO BUILDING.

ALBUMINURIA IN PREGNANT AND PUERPERAL WOMEN.¹

BY

ABRAHAM FREDRIK EKLUND, M.D.,
Stockholm, Sweden.

IT seems as if the human race, especially its feminine portion, had scarcely escaped one terrible scourge before another, still worse and more widely spreading, threatens to thin its ranks. The devastating plagues of past ages—the plague in Athens in the fifth century B.C., the pest of Antoninus in the second century A.D., the great plague in the time of Gallas in the third century, the sixth-century plague (inguinal plague), the great gangrene plague of the middle ages, the puerperal plague of the fourteenth century, the sweat plague of the fifteenth century, etc.—belong now to diseases of the past, having been successfully stamped out by energetic and appropriate sanitary means, especially ventilation and isolation. It is also due to rigid anti- and aseptic measures that we have succeeded in practically exterminating that formidable scourge, puerperal fever, which has reaped so many victims, showing what modern sanitary and hygienic means have accomplished in our maternities of to-day. But in its place a new evil, much more insidious and treacherous, is gaining a foothold and spreading more and more widely, at least in my beloved country and more especially in my private field of work—namely, the albuminurias.

For the maintenance of health it is absolutely necessary that all the organs of the body should perform their functions and

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that equilibrium and harmony between the various functions of the different organs should be constantly maintained. Any deviation from this may be followed by dire results. "If a limb suffers the whole body suffers." In the question now before us the functions of three different organs especially interest us—namely, the skin, the kidneys, and the digestive apparatus. There is, as is well known, a constant interchange of relations going on between the skin and the kidneys, whose function it is to eliminate from the system a number of agents as yet imperfectly known, but in their action, even in infinitesimal quantities, highly poisonous. The three organs now in question often become in the pregnant woman the seat of more or less serious disturbances.

One of the most commonly occurring of these functional disturbances has its seat in the sweat glands, showing itself in diminished sweat secretion as a result of repeated and long-continued cooling of the skin from insufficient clothing in a cold climate.

Even in our country there is at present a contention going on between the advocates of woollen and those of cotton underwear, the latter exerting themselves to the utmost to influence the public against the use of woollen underwear, giving as their reason—which, however, is as yet altogether unproven—that wool irritates the skin while cotton is indifferent. It would seem that those who regard the use of woollen underwear so unfavorably ought to present some facts or some experimental proofs in defence of their statements, but such has not been the case.

From my long experience in the practice of medicine I can safely say that the ordinary cotton underwear is altogether insufficient for women in our cold climate, and especially for pregnant women. Cotton, from its tubular structure, absorbs and gives off the sweat again with equal ease, and hence it is that after physical exertion the skin clad with ordinary cotton becomes cool, there is a diminished blood supply to the skin, and a number of the sweat glands cease functioning, wherefore the kidneys (their glomeruli especially) are called upon to take the rôle of the skin, with the result that these are overstrained and irritated by poisonous materials, so that their filtra become pervious to serum-albumin, which latter appears in the urine. The later developments in these cases will depend on circumstances. The disturbance in function may be only temporary and is easily amenable to treatment at first; but should it be

long continued the kidneys may suffer irreparable injury, and even contracted kidney may finally result.

The experience of thousands has proved conclusively the fact already demonstrated, that if woollen worn next the skin has any irritant action this must be an adequate stimulus in our cold climate, where the cold constantly tends to weaken and paralyze the function of the sweat glands. which is in no way maintained by the cotton underwear, even though this latter may have a certain stimulating action on the skin, similar to the thin-meshed shirts of tied cotton yarn. It is not long since¹ we were surprised to learn that all of a certain number (one hundred and six) of women, primi- and multiparæ alike, had albuminuria in the early puerperium (in 26.2 per cent of the cases at least 0.05 per cent albumin, in increasing quantity up to 1.2 per cent in *one* case), and that each of these women immediately after parturition has albumin in the urine; furthermore, that almost every case of albuminuria in puerperal women is dependent on a renal affection, even if slight, and not, or at least not wholly, on a urogenital catarrh, as even urine containing only nucleo-albumin (60 per cent—*i.e.*, eighteen cases out of thirty) can be the product of a diseased kidney; and, finally, that the cause of this albuminuria is an excessive functional activity on the part of the kidneys, there being increased resorption of fatty detritus as a result of the process of involution going on during gestation and until the end of the puerperium, more especially in the uterus, where during parturition itself the violent contractions of the muscles act like a forcible massage, kneading out, so to speak, from the tissues the products thence to be eliminated through the secretions of the body. According to the recent investigations of K. A. H. Mörner² it has been found that albumin is a constant and therefore *normal constituent* in the urine of both men and women.

Although not wishing to go beyond the limits of my subject, I cannot refrain from pointing out how dangerous and pernicious it would be, therapeutically and hygienically, to apply this rule in the case of those afflicted with albuminuria. To prove the correctness of my statement I will relate a case from my private practice: Anna Sofia O., æt. 37, single, has always had good health; has at times, however, taken Bland's pills. During the summer of 1895 she was induced to wear cotton

¹ Upsala läkareföreningsförhandlingar, xxx., 1, pp. 41-78. Lincoln Paykull, Om albuminuri hos myförlösta qvinnor, pp. 55, 60, 64, 65, 66.

² Hygiea, lviii., pp. 1-68.

next the skin, instead of woollen as heretofore, and continued with this during the cold season in order to harden herself. She soon complained of a feeling of cold in the region of the kidneys, and later an icy coldness in the whole body; the arms and legs were benumbed; she had a feeling of heaviness in the head, and was so weak that she was unable to be up. My examinations revealed only a slight albuminuria, nothing else. She was now kept in bed, the whole body enveloped in flannel, the sweat glands were kept moderately active and the bowels evacuated daily; milk diet and a solution of sodium acetate (100 to 600 aqua), one tablespoonful q. 2 h., were prescribed. After the albumin had disappeared from the urine and there were no longer any subjective symptoms, I allowed the patient to get up. She has since worn flannel and has been well. I am of the opinion that it was the patient's good fortune that I was old-fashioned enough to consider her albuminuria a result of her prolonged exposure to cold and to treat her accordingly. In accordance with the latest ideas on the significance of albuminuria the patient would have been declared well, as "albumin in the urine means nothing." She would have continued to violate the simplest law of hygiene—keep the body warm—and the functional disturbance of the kidneys would sooner or later have led to incurable organic disease.

To return now to my subject, after this little digression: Albuminuria in pregnant women is indeed a symptom not to be lightly considered. If, from a very large number of observations of these cases, I should construct a clinical picture of the disease, I find that the most prominent symptom is a certain drowsiness and feeling of fatigue. One can easily appreciate the significance of this, as the greater part of these women belong to the laboring classes; they are either wholly unable to work or perform their duties with great difficulty, whether it be in the capacity of housewife or singly in the struggle for existence, which brings with it also a social evil.

Another important symptom is the feeling of icy coldness in the whole body, always affecting those afflicted with albuminuria to a greater or less degree, beginning in the lumbo-sacral region and spreading over the whole body. There are no chills, properly speaking, that come and go at certain intervals, but a continual cold feeling day and night. There is a feeling of weight in the head, dizziness, diminished sense of sight and hearing, disgust for food, nausea, formication in arms and

legs, constipation, dry cold skin, lessened urinary secretion, weak heart action, dyspnea, and feeling of oppression. To these symptoms of autointoxication there is added later, when a real nephritis, either catarrhal, parenchymatous, or interstitial, has more or less gradually developed, swelling of the legs and abdomen, and very suddenly eclamptic convulsions supervene, which are of late becoming more and more frequent in pregnant women.

From what has been said it is evident that the albuminurias of the puerperium are, many of them, only a continuation and exaggeration of the already existing functional or organic disturbance of the gravid state, while others date from the act of parturition itself, caused by excessive functional activity of the kidneys.

That the steadily increasing intra abdominal pressure is not a hindrance to the cure of albuminuria during the progress of pregnancy, provided the proper treatment be instituted, is shown by the following case :

A married woman, æt. 37, pregnant for the third time, consulted me because she felt so tired that she was unable to be up and about. On examining her I found her to be seven months pregnant, very drowsy and weak, with a considerable amount of albumin in the urine. She was well covered up with quilts and blankets, the body enveloped in flannel, and diuretics and laxatives prescribed. Although the abdominal walls were distended more and more during the normal progress of the pregnancy, the albumin disappeared completely after the exhibition of sodium acetate (100 : 600 grammes) and a diet consisting chiefly of milk and beef tea with parsley. She was able to resume her duties in the household.

In conducting a normal delivery and the puerperium the old obstetricians were in one respect notably our superiors ; in another equally important question we still adhere to the traditions of our forefathers to our own disadvantage. We have therefore on the one hand something to learn from them, and on the other a prejudice to overcome, substituting something better in its place. I well remember with what anxious care the parturient woman used to be guarded from the least exposure to cold in times gone by, and how with equal solicitude she was kept gently and continually perspiring throughout the puerperal period—a mode of procedure which showed the most beneficial results for the woman. It was their powers of observation which enabled them to see that the profuse sweating had

a most beneficial influence, favoring the secretion of milk and relieving the kidneys from excessive activity—promoting the division of labor and maintaining equilibrium between the functions of these two analogous organs.

But if we do well in following the example of the old obstetricians in this respect, we must, on the other hand, in every way strive to discourage and overcome a prejudice that has been handed down to us—namely, the prejudice against the use of laxatives just previous to and during parturition as well as the three or four first days of the puerperal period, it being formerly supposed that this would tend to lessen the milk secretion. It is a procedure the exact opposite of this which has shown the best results, both in parturition and in the puerperium. It would therefore be desirable that the pregnant woman should be instructed by the midwife whom she has engaged for her confinement as to the necessity of daily evacuations from the bowels throughout the pregnant state; and especially toward its close and the beginning of labor she should use laxatives and enemata, if necessary, and this should be repeated every day throughout the puerperium. Personally I have followed this rule for a long term of years, and I have been most successful in my humble efforts to save the kidneys from over-activity and prevent antointoxication by keeping the bowels soluble and gently stimulating the sweat glands to functional activity.

In the maternities three hygienic improvements would be necessary in order to realize the above-named conditions. In the first place, the rooms occupied by the parturient and puerperal women ought to be heated to a uniform temperature of 18° C. or a little higher—not 10° or 12° C., or less, as is often the case in our cold climate. Secondly, at least double the number of blankets would be necessary, as a single, often old and worn blanket is quite insufficient for maintaining a constant perspiration, one extra over-blanket, and preferably also an under-blanket, being necessary for this purpose. Thirdly, it would be well-placed charity if private contributions were more liberal than heretofore for these “unfortunate ones,” in the shape of donations of flannel underwear, shirts, drawers, and stockings, in double sets, to take home with them on being discharged from the hospital.

The importance of administering diuretics and mild aperients to the puerperal woman as long as albumin continues in the urine should be impressed. The following can be used:

Cort. frangulæ,	
Fol. sennæ.....	ââ 20 gm.
Flor. sambuci,	
Flor. tiliaë,	
Fruct. juniperi	ââ 30 gm.

M. Sig. From one teaspoonful to a tablespoonful in a large cup of boiling water, as tea two or three times daily.

Philanthropy has founded asylums and maternities, and Christian charity donates means that they may answer the purpose for which they were intended. But it is also absolutely necessary that they should be provided with physicians, that they be well warmed, that the food be suitable for the anemic, albuminuric convalescents, that there be opportunity for hot baths and abundance of warm bedclothes.

Finally, it is with sincere respect and gratitude that I acknowledge that I have had the opportunity to observe cases of albuminuria, that persisted after the puerperium, treated by able colleagues, and have been able to verify a complete *restitutio ad integrum*, not to mention all the cases where Nature cured the disease without any artificial help.

Conclusions.—1. In handbooks for midwives attention should be called to the necessity of examining the urine of every pregnant woman. In case the urine is found to contain albumin, the midwife should be competent to order hot tub baths. flannel underwear, rest in the recumbent posture, mild diuretics and laxatives, beef tea with parsley, seltzer water with boiling milk, milk food, boiled fruit, weak coffee, tea, and chocolate, compound licorice powder, etc. If this hygienic treatment does not within a certain time, say a month, cause the disappearance of the albumin, a physician should be called.

2. A matter of great importance is that the pregnant woman should learn to procure for herself daily evacuation of the bowels, especially toward the end of pregnancy and in beginning labor. For this purpose dietetic means should be employed chiefly, but in case of failure mild aperients should be used, such as cascara, senna, frangula, compound licorice powder, and enemata of water and salt.

3. Of the very highest importance during pregnancy, and especially during the puerperal state, is the care of the kidneys, the avoidance of all that would tend to increase the functional activity of these organs, the maintenance of equilibrium and the proper division of labor between the skin, digestive apparatus, and kidneys. If any organ can bear a greater exercise

of function, it is the skin, and next in order of tolerance the intestinal tract; the lungs are far more sensitive, but the kidneys most of all.

4. No puerperal woman should be permitted to leave her bed until her urine is free from albumin, if possible.

S A, SIBYLLEGATAN.

VASCULAR NÆVUS.

BY

GEORGE HENRY FOX, A.M., M.D.,

Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York ; Physician to the Skin and Cancer Hospital, etc.

(With plate and five illustrations.)

THE vascular form of nævus results from an excessive development of vascular tissue in or beneath the skin, and presents a variety of clinical appearances. These may be conveniently classified as follows : 1, nævus araneus ; 2, nævus flammeus, or port-wine mark ; 3, nævus tuberosus ; and 4, nævus cavernosus. Of the many descriptive names which have been more or less in use, these appear to best express the characteristic features of the four clinical varieties of vascular nævus.

Nævus araneus consists of a small red spot, smooth or slightly elevated, from which several dilated capillaries radiate like the legs of a spider. It has sometimes been called "spider cancer," a name which is as alarming as it is inappropriate. It is not always congenital, but frequently appears in youth or adult life as the result of a prick, bruise, or other injury to the skin. On this account some writers class it under the head of telangiectasis or acquired vascular dilatation, assuming that the term nævus signifies a birthmark and not merely a spot or blemish. It is most frequently noted upon the upper portion of the face, and upon a fair white skin may be quite conspicuous and annoying.

Nævus flammeus, birthmark or port-wine mark, as it is commonly called, usually appears as a smooth, red discoloration upon one side of the face. It varies greatly in size, often extending down upon the neck and involving a considerable portion of the trunk. It varies also in color from a light pink to a deep purplish-red or even slate-colored hue. In its severe form the affected skin is elevated, the lip greatly swollen, and one side

of the face may appear notably larger than the other. The dark surface of the skin may be dotted here and there in some cases by small vascular excrescences. At birth small, faint red marks may be noted, especially upon the lower portion of the occiput, which tend to disappear in later years, but the port-wine mark usually persists throughout life, either remaining unchanged or becoming more conspicuous. It has been claimed that some cases have increased in area and that others have



FIG. 1.—Nævus of nose.

gradually disappeared, leaving atrophic scars, but such cases are notable exceptions to the rule.

Nævus tuberosus is a turgescient tumor of varying size with a rounded or flattened surface. It results from a congenital dilatation or new formation of blood vessels, and in color varies from a bright cherry-red to a purplish-red or leaden hue, according to the predominance of arterial or venous blood in the tumor. It is frequently seen upon the scalp and face, although

it may be found upon the trunk and extremities. It usually increases somewhat in size during the early months of infancy, and in some cases develops with such alarming rapidity that vigorous treatment is called for without delay. The tumor is usually elastic and compressible, and often varies in size and color at different times of day, and is especially prominent after a fit of crying or severe coughing. A distinct pulsation may



FIG. 2.—Birthmark of unusual extent.

be sometimes felt, corresponding in rhythm with the action of the heart. Ulceration of the central portion of the surface occasionally takes place, and from this cause or from some accidental injury severe hemorrhage may result. Gangrene may occur and produce a spontaneous cure.

Nævus cavernosus is a deep-seated form of angioma over which the raised skin may appear of normal hue or present a dull-bluish or venous appearance. The tumor is formed by

masses of dilated veins and arteries surrounded by firm connective tissue, which extends into the interior and forms vascular cavities communicating freely with the enlarged vessels. In some cases a number of these tumors, of varying size but of the same character, will extend along the surface of the skin like deep varices. They are usually soft, especially when of large size, and have a peculiar lobulated feeling when pressed beneath the fingers.



FIG. 3.—Nævus of scalp,

In the treatment of nævus araneus and other telangiectases the electrolytic needle is most serviceable. Any form of galvanic battery may be used, and the point of an ordinary cambric needle or flexible steel jeweller's broach, attached to the negative cord, should be pressed into the centre of the red spot. A moist sponge attached to the positive cord should now be grasped in the patient's hand or slowly applied to the skin at any point, when the electrolytic current will begin to act and quickly produce a whitening of the skin around the needle

point and cause sufficient inflammation to seal up the deep-seated supply vessel. The pain caused by this operation is slight and no more than the promise of some candy or a coveted toy will induce the average child to endure. The result is always excellent.

The electrolytic needle may also be used with success in many cases of port-wine mark, but the treatment is tedious and only capable of producing good results when persistently and



FIG. 4. —Nævus tuberosus.

skilfully employed. The best that can be said of it is that in case of extensive and dark-hued patches it is superior to any other plan of treatment, even if it is not productive of the speedy and brilliant result which might be desired. The object of this method of treatment is to cover the dark-red skin with minute punctate cicatrices, which will at least lessen the conspicuous character of the mark, if it does not remove it entirely. To remove a red birthmark and leave a perfectly



Vascular Nævus.

From the collection of Photographs of Dr. George Henry Fox.

normal skin is an impossibility. In cases where the color is not very deep a good result may be obtained by dotting the surface with minute drops of nitric acid, great care being taken that these do not spread or run together and in this way produce ulceration and subsequent pitted or raised cicatrices.

In the tuberoso variety of nævus, where red tumors suggestive of a strawberry, cherry, or flattened tomato are to be



FIG. 5.—Nævus of vulva.

removed, a resulting cicatrix is unavoidable, and either acids, electrolysis, or the platinum cautery may be advantageously used. The size and disfiguring character of the scar which is necessarily produced will depend in great measure, however, upon the skill and caution displayed in the treatment, whatever means may be employed in destroying the vascular growth. The attempt to remove this form of nævus by compression has always failed, in my experience; and as for ethylate of sodium,

although it has proved successful, it has been quite as painful and less effective than nitric acid.

In the treatment of the cavernous nævus the knife, ligature, galvano cautery, and injections of carbolic acid and of iodine have been recommended, and the most suitable method of treatment must depend upon the nature of the case.

18 EAST THIRTY-FIRST STREET.

NYMPHOMANIA CURED BY HYSTERECTOMY.

BY

JAMES E. MOORE, M.D.,

Professor of Clinical Surgery, University of Minnesota,
Minneapolis, Minn.

IN 1893 Miss N. B., who was then 24 years of age, came to me and requested that I should remove her ovaries or perform any operation that would relieve her of her nervousness, as she termed it. I learned that she was subject to attacks of hysteria and was always excitable and easily driven to tears. Upon careful inquiry I learned that her greatest suffering was due to nymphomania. The presence of most men, and even of some women, wrought her up to such a pitch that it caused her actual suffering and interfered with her usefulness as a nurse. She was a bright, well-educated, virtuous woman, who had learned at an early age that her condition was an abnormal one and that, in order to save herself from mental and physical wreck, she must avoid self-abuse. She had fought a good fight, but felt when she consulted me that she was ready to submit to any treatment, however heroic, that might promise her relief. At that time I could find no physical reason for operation and declined to operate.

In November, 1895, two years after she first consulted me, the patient returned with her nervous symptoms as bad as before. At this time she informed me that she had been suffering from dysmenorrhea and menorrhagia for nearly two years. She had been under the care of a competent lady physician, who had discovered that she had a double uterus. Repeated efforts had been made to dilate and curette, but, owing to the very small openings into the uterus and to the peculiarly resisting tissues of the organ, these efforts had been unsuccessful. Upon examination I found the uterus large and

very hard. Two small openings were present in a small cervix. A small uterine probe could be passed two and a half inches into each opening, but an ordinary uterine sound would not enter. Taking into consideration the amount of blood the patient was losing, her physical suffering, which at this time was evidently great, and the imminent danger of the patient becoming insane, I concluded to make an effort to relieve her.

On December 12th, 1895, at St. Barnabas' Hospital, I performed an abdominal section, removing both ovaries and the double uterus. There were two distinct uterine cavities, of about the normal size, with one Fallopian tube opening into each one. The partition wall was of about the same thickness as the outer uterine walls. .

The patient made a very rapid recovery. Two weeks after the operation she stated that her nervous feelings were rapidly disappearing. At the end of three weeks she went to a neighboring city, where she has been actively engaged as a nurse ever since.

On July 27th, 1896, seven months after the operation, the patient, in accordance with her promise, returned for examination. Physical examination shows her to be in perfect health, with the exception of a slight erosion of the remains of the cervix which causes a slight discharge. She states that her nymphomania has entirely disappeared and that she has almost forgotten how to shed tears. Her whole manner and appearance shows that a great change for the better has taken place.

OÖPHORECTOMY FOR THE INSANITY AND EPILEPSY OF THE FEMALE:

A PLEA FOR ITS MORE GENERAL ADOPTION.¹

BY

DAVID TOD GILLIAM, M.D.,
Professor of Gynecology, Starling Medical College,
Columbus, O.

IN reopening this most important subject I shall not weary you with long dissertations nor yet dwell on the ultra-scientific aspects of the case. I shall not deal with the subtle thoughts of the psychologist nor avail myself of the fine distinctions of

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

the alienist. I shall confine myself to plain facts and homely illustrations. I shall use the sexed and unsexed of man and beast, and the whole paraphernalia of old-time logic and literature. I shall use the clinical experiences of modern times. And, lastly, I shall startle you with a proposition that will, I fear, bring down on my head a storm of disapprobation. But here at the outset I wish to aver my seriousness and integrity of purpose, to disclaim any effort at sensationalism, and to proclaim my willingness to retract my utterances and to make all possible amends for the same if convinced of the error of my ways. Those who know me best and have followed me in my work can testify to my conservatism, to my aversion to operative interference where operation is not called for, to my utter abhorrence of depriving either man or woman of the God-given attributes that make them distinctive, unless the indications for the same are plain and palpable. I propose to show in this paper that oöphorectomy is a logical and legitimate operation for the epilepsy and insanity of the female.

I shall attempt to show that the ovaries are important factors in the processes of the economy, that they are capable of exerting a beneficial or baneful influence. I shall attempt to discover wherein this relationship exists, how far it extends, that we may deduce therefrom our line of treatment and gauge our expectations. I will call your attention to the wonderful changes that attend the establishment of ovulation—the evolution of mind and body and moral sense. I should like to descant on these changes, to quote beautiful passages from some of our gifted writers with whom it seems to have been a favorite theme. I shall endeavor to show that this miracle of developmental energy is partly incident to, and partly coincident with, the evolution of the sexual apparatus. As the ovaries and testicles are analogous, I shall use one or the other as best suits my purpose to elucidate the question at issue. It would seem an easy matter to determine the effect of the sexual glands on the economy, as we are supplied with all the conditions both by nature and by art. If we take a girl in whom the ovaries are congenitally absent, we find an arrested development of both mind and body. Bust and hips are deficient, and she is wanting in the rounded outlines and beautiful curves of her more favored sister. This is the usual picture, but here comes a query: Is the want of development *because* of the absence of the ovaries, or is the latter merely an expression of the general developmental atony?

Take the following : Four years ago I was consulted by a young lady of about 22. She was a rare beauty and of perfect form. She was bright and intelligent, and had always enjoyed the best of health. On examination I found the external organs of generation perfect ; the clitoris was above the average in size. There was no vagina, and, so far as I could determine by careful examination, there was neither uterus nor ovaries. She said that she was passionate, that she wanted to marry, and had come to have a vagina constructed. She had never had vicarious menstruation nor experienced the menstrual molimen. The rest is not relevant, but I go on. I made a vagina ample and deep, and placed therein a glass plug. enjoining her to wear it almost constantly. I told her if it (the vagina) began to close up to come to me at once. She married. Eighteen months after she wrote me, and with the coyness peculiar to her sex remarked : " My husband has said nothing about sending me to Columbus." This case would indicate that the ovaries are not essential to growth of mind or body. But let us look further. In the eunuch we find a person from whom the external organs of generation have been removed at an early period and before they could have much influence in shaping the destinies of developmental energy. Popular opinion ascribes to the eunuch properties that are diametrical to manliness ; according to this view he is puny, pusillanimous, effeminate, wanting in intelligence, despicable. In this opinion I find many of the profession sharing. Eunuchs are not common in this country, and we have few opportunities of verifying or disproving this view. History, however, is not silent. Time was when eunuchs abounded. The women of the harem were entrusted to their charge, to whom they had free access, with whom they commingled. By reason of this they were brought in contact with kings and courtiers, and enjoyed special privileges. That they were not wanting in intelligence is evidenced by the fact that many of them came to distinction in science, in literature, in statecraft. Some became rulers of realms. That they were not wanting in soldierly qualities it is only necessary to mention the name of Narses. We are told that in physique they were the equal of those around them. It is true that their voices were the voices of boys, but their ruling traits were fidelity, truthfulness, high moral sense.

Let us turn to the lower animals. Much has been said and written about the differences between the castrated and the intact animal, but when we come to analyze these differences we

are surprised at the paucity of results. Not that a difference does not exist, but it confines itself to a much narrower limit than at first supposed. If I were to ask you wherein this difference consists you would reply : " Oh, the perfect male is superior in every way—he is larger, more muscular, fiercer, more majestic." But a moment's thought will convince you that the castrated animal may be, and often is, as large and as muscular. He is equally as sagacious and enduring. He is less majestic, less terrible, less impulsive. Why do we alter our colts and calves ? Not that we expect to dwarf them, not that we expect to abate strength or endurance, nor yet to render them less intelligent; but that we may make them tractable and trustworthy—that we may convert them into faithful, well-disposed servants. The experience of ages sanctions the practice and puts the seal of truth on it. The combative disposition of males toward each other is notorious. The terrible combats of the stag and the stallion, the sonorous challenge of the bull as he roams the country over in quest of a female or a fight, attest the inherent tendency of the male. Instance : Two stallions are in the same stable, a black and a bay. The black slips his halter and attacks the bay. The bay breaks loose and the combat wages furiously—so furiously and relentlessly that onlookers are powerless to interfere. The black, mangled and bleeding, sinks to the earth, and the bay pounces upon him with his feet and tears him with his teeth until reduced to a pulp. The bay is horribly mutilated and is shot. A gelding will fight, a steer will fight, but they will not go after one; they will not pursue their victims through the gates. A eunuch will fight, but only in defence of person or principle. I have said that sexual fervor is a characteristic of the unmutated male. I am not going to argue that the sexual sense is residual in the organs of generation. I am not going to argue that men or women bereft of these organs are wanting in sexual passion. I believe with many others that the seat of passion is located in the central nervous system. I believe that the fires of passion continue to burn even after the external organs have been removed. But they do not burn so fiercely, they do not lead to overt acts. It has been said that a steer will chase a cow. Possibly ; but not with the vim and vigor of the bull, not with the determination that laughs at danger and recognizes no obstacle. That the perfect male is as valiant in love as in war the following will attest : A gentleman saw a cow standing at a fence on the hillside, looking over and down. A bull appears

at the crest with fire in his eye; spying the cow he bounds toward her, gathering momentum with every jump. When twenty feet away he lifts himself in air and strikes the cow with terrific force. Both go through the fence and down the declivity. A period of quietude, and the bull struggles to his feet and assumes a professional air. But the cow—alas! in the language of the poet, “the subsequent proceedings interested her no more.” That was all right for a bull, but such conduct on the part of a steer would be highly indecorous. The steer is not an ardent lover, and even the cow recognizes the fact. That the emasculated have sexual passion the behavior of animals and the testimony of man leave no doubt. But it is a passion tempered with prudence and tame beside the fierce energy of untethered masculinity. History, so far as I know, gives no instance of sexual perfidy on the part of the eunuch, and yet of all men his opportunities were greatest. If you ask me how the eunuch could betray his trust, I refer you to the sexual pervert. That the sexual fires always burn even in the breast of the so-called passionless I have had many occasions to verify. Women in the seventies will sometimes tell you, as they have told me, that they still retain much of the ardor of youth.

I know a woman of 39 who, notwithstanding that she has never in her life, with but two exceptions, experienced pleasurable intercourse, and to whom the act is uniformly painful, will solicit her husband for the marital embrace. Women are by nature more nearly neutral than men, and the deprivation of the sexual glands is less felt by them, and yet I have seen many instances in which castration has been followed by a marked change in disposition and temper, and always for the better.

A word more with reference to the influence of the sexual glands on mentality. When I began the preparation of this paper I was imbued with the idea that such a relationship existed. I believed that the sexually perfect man or woman gave us the highest type of mental vigor and energy. I called to mind many instances. I formulated the proposition that the aggressive and progressive in all the walks of life were men or women of the greatest sexual vigor—that the leaders were lovers in civil as in martial life. I then thought of Parvin, of Playfair, and of Price, and the absurdity of the thing overwhelmed me. Then I took the other horn of the dilemma. I was reminded that sexual excesses led to evil results to body

and mind; that even a single ejaculation of the spermatic fluid was followed by lassitude and somnolence. I looked to the humbler walks of life and found mediocre intelligence and large families. I looked to the pinnacles and saw intellectual giants, grand and gloomy in their solitude. I said: "It is the equity of nature; procreative power and mental energy are inverse" But a wider ken brings such a multitude of exceptions as to disprove the rule, and we reach the climax when we find that idiots are deficient in both respects.

What, then, is the sum of the whole matter? Simply that castration changes the disposition and temper of animals and heightens the moral sense in man. Of this there can be no doubt. The whys and wherefores would make an interesting study; but the fact remains, and that is sufficient for the purpose. That there exists a correlation between the sexual glands and the mind I have little doubt, but in the present state of our knowledge we cannot put a finger on it. I do not believe that Brown-Séquard was altogether dreaming when he promulgated the virtues of the seminal fluid. But the time is not ripe for a therapy grounded on such views. Let us turn to clinical experience. Some pioneer work has been done in this direction by men who had the courage of their convictions. Rohé, Manton, and others have blazed the way, and what do they tell us? They tell us that castration pays; that patients are improved, some of them cured; that the moral sense of the patient is elevated, that she becomes tractable, orderly, industrious, and cleanly. This is *a priori* just what we would expect. It is just what we find in animals, in men and women upon whom the operation has been performed for other reasons. My own experience in this line has been most happy. But I forbear; enough is already known for the purpose.

I come now to the last and, as I think, the most important phase of the subject. I believe in the castration of epileptics and the insane. I believe in it on broad, humanitarian grounds. Insanity is hereditary. Epilepsy is hereditary. They constitute the greatest curse to humanity. An insane father or an insane mother will bring more misery into the world than any other father or mother. The offspring of such a parent when ushered into the world will be confronted by the awful spectre of impending doom, and though he call on the rocks or mountains to fall on him, or flee to the uttermost parts, the curse will pursue and overtake him. I give you a picture from real life. A young man of five and twenty meets and marries a young

woman five years his junior. He is manly and intelligent, she brilliant and beautiful. Both are of excellent family, but on her side the neurotic element is strong and can be traced through generations. In time a child is born—a boy. He grows in stature and in favor. He is sent to school. He outstrips all competitors. At the early age of 16 he graduates, the admiration of the people, the pride of his parents. His mental prowess, his artistic accomplishments are phenomenal. "A glorious future awaits him." He begins to have queer spells. The doctor is consulted and pronounces it epilepsy. The paroxysms increase in number and severity. He has dangerous moods. In one of them he hurls a knife at his sister and inflicts a cruel wound. He is sent to the asylum. He goes from bad to worse, becomes a drivelling idiot, gives himself over to filthy and disgusting practices. The father walks pensively from day to day. The mother wrings her hands and cries. He dies and the shadow lifts. This is not an isolated case. Thousands of mothers all over this broad land are echoing the refrain of this mother. It is not the voice of Rachel lamenting her children—it is more like the cry of Tamar bewailing a cursed maternity.

The logical conclusion of all this is that every insane or epileptic, male or female, should be castrated; ay, more, any that have the insane or epileptic tendency. I am not prepared to go so far. I would limit the operation to those in whom the malady appears in some way to be connected with, or dependent on, sexual disturbance. I would go further and include all who are willing to undergo the operation to save themselves and their offspring from the miseries which await them. In this we need have no compunction, for, though the patient be not directly benefited, we feel that we have discharged a duty and conferred a boon.

NINE MONTHS OF ABDOMINAL AND GYNECOLOGICAL
SURGERY.

BY

EDWARD J. ILL, M.D.,

Surgeon to Woman's Hospital and Gynecologist to St. Barnabas' Hospital of Newark, N. J.; Consulting Gynecologist to the German Hospital of Newark and to All-Souls' Hospital of Morristown, and Mountainside Hospital of Montclair, N. J.; Fellow of American Association of Obstetricians and Gynecologists, etc.

SOME hospitals, notably those of Germany, publish an annual statement of the work performed during the year. This is a wise measure. The advantages are twofold—the operator makes a review of his year's work, and the medical public learns of the character and the methods of the work performed. From October 1st, 1895, to July 1st, 1896, I have operated upon two hundred and seventy-eight individuals. As a matter of comparison I have divided them into such as were done in private houses and in hospitals. Of these, eighty-nine were operated upon in private houses, ninety-nine at one hospital and ninety at another. This does not include all the work done in my service at the hospitals, as my assistants do much work of their own, in some of which they desire my assistance. The separation of the work into major and minor operations is rather arbitrary. For no one would deny that an operation for complete laceration of the perineum is an important operation, but it can hardly be classed as a major or capital operation. Most naturally the fatal cases must first receive our attention. From the record of St. Michael's Hospital it appears that Case 21 died from sepsis. She was in a septic condition on admission, having tubercular abscesses of the ovaries opening into the rectum, and high temperatures for several months.

Case 53, of the same table, died from sepsis two weeks after an operation for appendicitis. She had been confined in an insane asylum twice before, and again became violently so very soon after the operation; and thus it was difficult to keep her quiet, and sepsis followed. Case 18 died, twenty days after cutting for menorrhagia, at an insane asylum from acute melancholia. At a post-mortem examination the pelvic organs

were found normal. In the pelvis of the left kidney was found a little pus. The brain was not examined by the authorities of the institution. In the report of St. Barnabas' Hospital there was but one death, Case 17, which I want to record only to say that the operation had apparently nothing to do with it, as it occurred not until two weeks after. Death took place suddenly at night, and to all appearances from paralysis of the heart. She had been in the best of spirits, with a good appetite, and looking forward to her early discharge with much joy. An examination post mortem revealed nothing but an over-dilated right ventricle of the heart. In the report of operations performed in private houses a similar thing occurred. Case 15 died several weeks after the operation, while the patient was convalescent and in charge of the attending physician. In this report there are also recorded three deaths from appendicitis. Case 21 died in a few hours, the whole abdominal contents being bathed in pus. Case 26 lingered along for four weeks and died from septic pulmonary abscess, while Case 58 died in two days from very malignant sepsis. Thus four cases were lost of appendicitis out of fifteen. Thirteen of these were purulent. Since I am not a convert to operation upon every case that comes along, I select those only that seem severe enough to justify the operation. My percentage of death, therefore, seems very large. I have had a specially bad array of cases during the year past, and have lost more than in all my former experience together. There occurred, then, eight deaths during the time covered by the report, two of which probably had no bearing on the operations, and one died insane. The other five were all septic at the time of operation. The morbidity was very slight; an occasional stitch-hole abscess, mostly in cases of ventrofixation where the uterus is fastened up with silk suture, and two cases of iodoform poisoning, were all. There were three cases of secondary hemorrhage. Two occurred seven and ten days respectively after perineorrhaphy, and one eight days after an anterior colporrhaphy. All were promptly checked by a ligating suture.

The patients in private houses did as well, considering that many were emergency cases, as those in hospital practice, and I no longer hesitate to do important operations there so long as the patient can get proper nursing.

I have always recognized that the indication for any operation must be strictly laid down. Thus I am opposed to all

operative measures for fibromyomata that produce no symptoms. I have become old enough to see a woman go for twenty years and never know that she had any disturbance in the pelvis. It would appear to me to be a foolish act to subject a woman to an operation for retroflexion, for laceration of the cervix, when no symptom calls for relief. The latter is a source of great abuse, and many a poor woman is made miserable in mind by the assertion that cancer would be sure to follow if an operation was not permitted. A woman can be frightened into any operation when threatened with the word cancer. I do not feel that a woman should be urged to any operation, however small an affair it may be. Tell her the facts of the case and let her choose for herself; she will usually select the proper thing. I am still of the opinion that many cases of acute inflammatory troubles of the tube and pelvic peritoneum are cured by local treatment, rest, blisters, etc., and have saved many tubes and ovaries already condemned to extirpation. Those who have been kind enough to watch my work know that conservatism was always paramount.

The technique of asepsis has become so well established that there need be little fear, in that direction, in a private house. Of course I prefer to operate in a hospital; the cases give one less care and anxiety, even though the money remuneration is greater in private houses.

The operations were all carried out in three steps, so far as antisepsis and asepsis are concerned. The first consisted in thorough cleansing by antiseptic means. The second began with the operation proper and no antiseptics touched the patient. Everything was then aseptic. The third was the sealing up of the wound by some antiseptic, usually an iodoform dressing.

I have never attempted to do without antiseptic dressing of the wound, and have the satisfaction of seeing that others have returned to it. In hospital work this was made easy by good nursing, good assistants, and all the appliances. Here I am much indebted for the comfort that Dr. Edebohls' table gives me. In private practice a portable operating table, the invention of my brother, Dr. Charles L. Ill, has been of the greatest help in the work. This, with a self-retaining speculum and the holder of the Fritsch-Bozeman catheter, reduces the number of the assistants to a minimum. For sterilization the apparatus of Dr. Dudley, of Chicago, has given me the greatest satisfaction. For several years I have discarded sponges and now

use small napkins, which are numbered, steam-sterilized, and used dry. As ligatures I use sterilized silk, when they can be used in a sterile field or far removed from the skin. When the parts are affected by pus, or for superficial sutures, sterilized catgut is preferred. For many years I have prepared all catgut personally and in the following way: Two or three strands of catgut are wound loosely on large glass spools and immersed in a large quantity of a watery solution of mercuric bichloride, 1:500, at blood temperature. The catgut is allowed to remain in this solution until the strands begin to unravel and all white specks in the thread have disappeared. This means that the fluid has penetrated the tissue. The length of time catgut must remain in the solution will depend upon its size, anywhere from two to six hours. It is now taken out and placed in a large jar of ether. As the ether displaces the water it is necessary to put some cotton on the bottom of the vessel into which the water may descend and not touch the catgut, as it would be softened thereby. In ten days the fat will all be dissolved out of the gut, and it is now placed in a large jar of absolute alcohol; here it should remain for six months before it is used. The alcohol is changed once in two months. Attempts at cultivation have proven it to be sterile. That all handling must be done aseptically need hardly be mentioned. The only objection to the method is the long time which elapses before the material is ready for use. I constantly see everybody else change their method of sterilizing catgut, and therefore judge their method to be imperfect. I have never yet had any fault to find with my own, which has been in constant use for eight years. As suture material I prefer silver wire and, occasionally, silkworm gut. Now and then I have used the kangaroo tendon of Dr. Marcy.

As an operator's dexterity increases he will allow himself to do several operations on the same patient at one sitting. It is often difficult to say when to stop. As a rule, however, the sitting should not last over an hour when the patient is in good shape and takes the anesthetic well, and we know that her chances are not reduced thereby. Any operation or set of operations going beyond that time become dangerous. It is therefore necessary to have good assistants who know their business. Especially is this the case with the anesthetizer, who should not drown his patient in ether. There is no doubt that the frequent cases of pneumonia which we hear of after operations are due to overcrowding the ether, especially in con-

nection with the Trendelenburg posture. A curetting, hysterotrachelorrhaphy, perineorrhaphy, and a ventrofixation can easily be accomplished in the time given. Rectal operations should not be combined with abdominal section, nor any operation where the peritoneal cavity is opened. In all vaginal, rectal, or uterine operations where the peritoneum is not opened constant irrigation with sterilized water is used. I make an exception to this in the curetting of the uterus preparatory to other operations, where I irrigate with a solution of mercuric bichloride of 1:5000.

There have been no incomplete abdominal operations during the time covered by the report, except for malignant disease and a case of papillomatous ovarian tumor, probably also malignant (Case 39 of the report of St. Michael's Hospital). In this case it was hoped that the removal of the uterus would assist in totally extirpating the mass, but small pieces remained behind along the side of the pelvis. In Table B it will be noticed that I have done a large number (thirty-two) of ventral fixations of the uterus, often combined with other operations. The vaginal fixation I do not like, on account of the uncertainty of the result. When Dührssen and Mackenrodt first described their operations I performed the operation about ten times and then awaited the result. About one-half of the cases relapsed within a year. My confidence in the operation was not strengthened by two of Mackenrodt's patients who turned up in my office with relapses of the difficulty. The opinion is still extant that the operation for relaxed outlet of the vagina will cure a retrodisplaced uterus. Physicians commonly tell me if I would only repair the torn perineum the retroflexed uterus would look out for itself. This is erroneous. Patients living within a reasonable distance from this city and who can wear a pessary have never been subjected to this operation at my hands.

I have reported two cases of shortening of the round ligament by the Wertheim method (Case 96, St. Barnabas' Hospital, and Case 74, St. Michael's Hospital). The immediate result was good, but the future must speak of its permanent result.

Thus far I have seen but one relapse after all my cases of ventrofixation, and that occurred in a woman who had the placenta of a four months' fetus removed by manual exertion. It can be well understood how such an interference can separate

the adhesions. The operation, as I perform it, is to insert two sutures of heavy silk, one anterior and one posterior to the horns, taking in about three centimetres' width of uterine tissue. These sutures also close the lower portion of the wound in such a manner that very little peritoneum is grasped, but a large portion of fascia and muscle and small portion of skin. This has the effect of approximating the fascia and muscle very closely. The suture is tied over an ordinary bone button, thus preventing all constriction of tissue. The skin under the buttons is kept dry by iodoform gauze. When I have reason to believe that the woman will no longer bear children the uterus is fastened directly to the fascia transversalis, as an extra precaution, by catching up the peritoneum with a needle and pushing it back before the needle is thrust through the fascia. This unites the uterus to the fascia and will not give way even under the severest strain. The rest of the wound is closed by silver-wire sutures, as I do all abdominal incisions.

The principle of suturing the abdominal wound is always the same—a small amount of peritoneum, a large amount of muscle and fascia, and just enough skin to cover the wound. An exception is made in very fat women, where the fascia is brought together by a separate running catgut suture No. 2. I prefer silver, as it approximates tissue nicest, but make an exception and use silkworm gut to save time when the operation has been a long one and the walls of the abdomen are not fat. Hernia is exceedingly rare, and almost only where drainage had to be resorted to. There has not been a single operation for ventral hernia during the year. From the annexed hospital reports it will be shown that many ovaries have been saved by resecting what appeared to be diseased portions. This operation has always given me great satisfaction. I have seen conception follow several times.

The operation for non-malignant ovarian tumor remains a highly satisfactory one. I have not lost any in several years.

I have not yet become wedded to any one operation for fibromyoma, but select that one which gives my patient the best chance of recovery. Of course I prefer enucleation of the tumor from below or above without removing the uterus. Such operations are not infrequent and are highly satisfactory. Where the uterus must be removed I prefer the vaginal route when the vagina is roomy, and the tumor does not reach above half the distance between navel and pubes, and the cervix can be

dragged to the vulva. When the tumor is sloughing and the patient has fever this route can be selected in a growth of moderate size and a patient in good physical condition (Case 26, report of St. Barnabas' Hospital). When the growth is a large one I prefer the rubber ligature and the supravaginal amputation, fixing the stump in the abdominal wound. To prevent the abdominal cavity from being soiled I do not cut off the uterus until the abdomen is firmly closed. It can be done in as short a time as twenty minutes from the moment of the first incision until the patient leaves the table. During the year I have operated in this way for sloughing fibroids and sepsis three times, and each time successfully. The same method is preferred in all patients who have been greatly exsanguinated. The loss of blood is almost *nil*. Complete extirpation of the whole uterus by the abdomen I have given up for supravaginal amputation with dropping of the stump and closure of the peritoneal wound. I have preferred either the method of Zweifel or that of Fritsch; both have served me well. The latter closely resembles that described lately by Kelly. Among the cases of special note was one recorded as No. 9 in the report of St. Barnabas' Hospital. This was by far the worst case I ever saw. I have seen operators give up cases of much less severity, and probably I should have done likewise if there had been a chance to return the tumor into the abdomen, but it was too large to draw the abdominal walls over it again. A wound of the bladder reaching from one side of the pelvis to the other was produced in pushing down the peritoneum anteriorly.

I am not yet entirely satisfied that the vaginal route is the best for pus tubes and abscesses of the ovaries. The abdominal route has given me such good results that I am slow to desert an old friend. After ligature of the pedicle in pus cases it is my custom to cut the mass off by the cautery knife and thoroughly cauterize the stump of the Fallopian tube. I believe I can thus prevent exudates which led some to recommend a supravaginal amputation in all pus cases. It will be noticed, however, that the cases of vaginal extirpation reported were eminently successful.

I never extirpate for carcinoma when I do not think the patient has a good chance to remain free from recurrence. Nothing is so discouraging for both the patient and surgeon alike as to have her return within a few months suffering from the same disease. That this is commonly the case can be

judged from the fact that "improvements" in the technique are published every day of which nothing more is heard. I have now the records of five cases operated upon more than three years ago, without recurrence, out of twenty-seven operations. Whatever the fault may be, it is greatly to be regretted that patients do not come for operation sooner.

Ectopic pregnancies remain an interesting field for discussion. In one of my last cases (No. 83, table of St. Michael's Hospital) I succeeded very well in stopping all hemorrhage from a five months' placenta by ligating the ovarian artery. Its removal was thus easily accomplished. This is the second time I have been able to remove a large placenta *in toto* when I was able to get at that vessel. In both cases the slightest attempt to separate the placenta produced severe hemorrhage. In each case this was promptly checked by the ligation of the arteries spoken of, and complete removal of the placenta was safe and easy. Ectopic pregnancies should as a rule turn out favorably after operation. There is nothing septic about the cases—a desideratum of great importance.

It speaks well for the medical profession of our country that so few cases of vesico-vaginal fistula come for operation, especially when compared with the results of parturition reported in Europe. I have but one to record. It was a vesico-utero-vaginal fistula and was promptly cured.

The most discouraging cases are those where we still feel that an exploratory incision should be made and where the removal of the mass, usually cancerous, is impossible. A more hopeless and dejected set of patients it is difficult to conceive of.

Of the minor operations none give more satisfaction to the patient than does Emmet's operation for laceration of the cervix.

Next to that the operation for repair of the vaginal outlet is of great moment. On page 42 of the "American System of Gynecology" the following assertion is made: "It can now be said that secondary posterior colporrhaphy and perineorrhaphy have reached a stage closely bordering on perfection." This is certainly true, and I should like to add that the stage of perfection in perineorrhaphy will have been reached as soon as we stop cutting away normal tissue. By observing the fresh laceration closely I have gradually conceived for myself an operation which during the past six years has given me the greatest satisfaction. It consists in removing cicatricial tissue only, and raising the retracted flaps so as to make the wound look as

it did when freshly torn. I will reserve for myself a minute description for another occasion. The satisfaction it has given me is expressed by the number of times (forty-one) it has been done during the past year. Nothing can improve the result of Tait's operation for the closure of the laceration extending into the rectum. I have operated upon an unusually large number (ten) during the time covered by the report. They were all successful, though one had been torn as long as eighteen years, but the sphincter ani had not lost its tone. To operate upon ten complete perineal lacerations in nine months is far beyond my average.

No improvement in our technique has given me more pleasure and satisfaction than the catheterization of the ureters by the Kelly method. Dr. Kelly deserves the highest praise for the work done in this direction, and no amount of controversy will take from him the credit. Thus in Case 15 in the report of St. Barnabas' Hospital I could assure myself of the healthy right kidney by catheterization of its ureter. The woman was restored to perfect health after the removal of the left kidney, which contained twenty-two calculi. Various other important and interesting cases can be found in the reports annexed, which I think will pay perusal.

It only remains for me to add that much credit for the results belongs to my assistants for their faithful work ; and to Dr. W. Goodwin are due my thanks for the making out of the reports. In these days of trained nurses, who often stir about an operating room as mischievously and in as great numbers as flies do about honey, it will be noteworthy to say that the nursing and the preparations for the operations at one of the hospitals were mainly done by a single nurse and to our entire satisfaction.

TABLE A.

GIVING THE NUMBER OF OPERATIONS AND NUMBER OF PATIENTS OPERATED UPON.

	Number of patients operated upon.	Number of operations performed.	Number of minor operations.	Number of major operations.	Number of patients who had more than one operation.
Private houses	89	190	96	24	31
St. Michael's Hospital . .	90	118	64	48	23
St. Barnabas' Hospital . .	99	153	109	54	54
Totals	278	366	269	127	108

TABLE B.

GIVING THE NUMBER OF SOME OF THE MORE FREQUENT OPERATIONS.

	Vaginal extirpation of uterus for					Celiotomy (100 cases) for											
	Fibroma.	Carcinoma.	Ovarian or tubal abscess.	Neuralgia of broad ligaments.	Ovarian tumor.	Fibromyoma.	Uncomplicated ventrofixation.	Ventrofixation complicated by tubal or ovarian disease.	Ovarian or tubal abscess.	Ectopic pregnancies.	Appendicitis.	Exploratory incision.	Various other causes.	Hystero-trachelorrhaphy.	Perineorrhaphy, incomplete.	Perineorrhaphy, complete.	Curettement.
Private houses.....	1	1	..	..	..	2	2	..	1	2	11	1	2	16	9	6	38
St. Michael's Hospital.	2	2	2	2	2	2	12	2	2	1	1	2	2	10	11	2	27
St. Barnabas' Hospital.	2	2	..	..	..	2	12	4	1	1	3	..	2	19	21	1	36
Totals.....	4	4	5	2	17	8	26	6	10	4	15	4	11	45	41	10	98

Minor Operations at St. Michael's Hospital.—69. Papilloma of vulva—excision. 79. Fracture of coccyx—bicycle accident; coccyx united at right angles to the spine. 57. Cicatricial closure of vagina—incision and dilatation. 46, 71. Perineal laceration, complete—Tait operation. 48, 65. Perineal laceration. 46. Laceration of perineum, complete; prolapse of uterus; cystocele; rectocele; laceration of cervix; subinvolution of uterus; hyperplastic endometritis—curettement; trachelorrhaphy; colporrhaphy, anterior and posterior; perineorrhaphy. 36. Laceration of perineum and cervix; rectocele; hyperplastic endometritis—curettement; trachelorrhaphy; perineorrhaphy. 77. Laceration of perineum: cystocele; hyperplastic endometritis—perineorrhaphy; curettement; colporrhaphy, anterior. 21, 24, 38, 82. Laceration of perineum and cervix; hyperplastic endometritis—perineorrhaphy; trachelorrhaphy; curettage. 54, 58, 78. Laceration of cervix and hyperplastic endometritis—curettage; trachelorrhaphy. 13, 18, 45, 49, 64, 86. Hyperplastic endometritis—18 became insane; acute melancholia on the third day, of which she died twenty days thereafter at an asylum. 17. Purulent endometritis and salpingitis—curettage. 7. Carcinoma of cervix—curettage; disease extended beyond tissue fit for removal. 47, 84. Retained chorion—curettage. 61, 89. Septic endometritis after abortion—89, criminal abortion, curettage; 61, complicated by fibromyoma. 63. Dysmenorrhea membranacea—curettage. 68. Endometritis hyperplastica due to fibromyoma uteri—curettage. 29, 81. Stricture of os internum—dilatation. 67, 80, 85. Chronic retrouterine peritonitis and stricture of os internum—stretching of adhesions and utero-sacral ligaments; dilatation of cervix.

Major Operations at St. Michael's Hospital.—1, 6, 11, 37, 39, 60, 75. Ovarian cyst, multilocular—6, intraligamentous; 39, papilloma only partly removable, even after extirpation of the uterus per vaginam. 16,

26. Parovarian cyst—peritonitis from twisted pedicle. 31, 50, 73, 88. Sarcoma of ovaries—38 only could be removed thoroughly, the others were exploratory. 14, 28, 34, 42, 72. Fibromyoma uteri—14, chronic salpingo-ovaritis, ectopic pregnancy in R. tube, supravaginal amputation; 28, sphacelation, sepsis, supravaginal amputation; 34, vaginal total extirpation by morcellement; 42, resection of portion of posterior wall of the uterus with three fibroids; 72, pedunculated fibroid with double hydrosalpinx. 35, 43. Carcinoma of cervix uteri—vaginal total extirpation. 59. Carcinoma of vagina recurring after extirpation of uterus—excision of upper part of vagina. 9, 12, 19, 21, 23, 50, 55. Pyosalpinx and abscess of ovary—9, celiotomy; 12, attempt at removal per vaginam failed because uterus could not be dragged down; 19, very severe case, due to strong adhesions and pus in many pockets; 21, tubercular abscess had opened into rectum; death; 23, celiotomy, gauze drainage; 50, celiotomy, double pyosalpinx; 55, very old and general adhesions, large wound of bowel, immediate suture, gauze drainage. 32. Pyosalpinx and abscess of left ovary; hematoma of right ovary; adherent right tube; chronic endometritis—celiotomy; removal of left tube and ovary; excision of hematoma and suture of right ovary after breaking up adhesions. 40. Hematosalpinx duplex—celiotomy. 10. Chronic salpingo-ovaritis; retroflexed adherent uterus—celiotomy; removal of tubes and ovaries; ventrofixation. 8, 56a. Retroflexed uterus with adhesions and lacerated perineum—56a, uterus and broad ligaments were so attenuated that separation was impossible. 62. Retroflexed uterus without adhesions—celiotomy; ventrofixation. 3, 4, 15, 22, 51, 52. Retroflexed uterus with adhesions—22, excision of cyst of ovary and suture, ventrofixation; 51, also hyperplastic endometritis. 30. Retroflexed adherent uterus; hyperplastic endometritis; laceration of the perineum—uterus bicornis. 74. Retroflexed uterus; laceration of cervix and perineum—trachelorrhaphy; perineorrhaphy; shortening of round ligaments (Wertheim method) by anterior colpotomy. 27. Retroflexed uterus; carcinoma of small intestine—disease of intestine too far advanced for resection. 5. Exudate in left broad ligament after removal of tubes and ovaries—vaginal extirpation of uterus, with the result that patient was immediately and permanently relieved of her pain; castration was performed elsewhere. 44. Abdominal fistula following gauze drainage—vaginal extirpation of uterus to cure the fistula; this was promptly accomplished. 20. Hernia, umbilical, irreducible—removal of two pounds of omentum; the fascia and muscles are split and united by deep silk buried suture; the skin and fat over them are united by silk-worm gut. 53. Appendicitis, perforated—died of sepsis in two weeks; she was demented all that time, and had been an inmate of an asylum twice before. 83. Ectopic pregnancy—at five months; placenta was removed after ligation of ovarian artery; a large pedunculated fibroid was removed at the same time.

Minor Operations at St. Barnabas' Hospital.—82. Abscess of Bartholin's gland—incision. 95. Papillomata of the vestibule—extirpation. 62. Recto-vaginal fistula. 33, 49. Hemorrhoids—ligature. 83. Hemorrhoids and fistula in ano. 53. Fissure in ano. 58, 98. Fistula in ano. 52. Coccygodynia and hyperplastic endometritis—curettag; removal of coccyx. 20. Cicatricial atresia of vagina and vesico-vaginal fistula—all attempts to get sufficient tissue to make a new vagina failed, and the husband

objected to closure of the fistula as it formed the canal for copulation. 16. Fissure of urethra—dilatation. 32, 55. Retained chorion—curettage. 40, 44, 45, 97. Stricture of os internum—dilatation. 74. Stricture of os internum and hyperplastic endometritis—dilatation and curettage. 12. Fibropolypus of uterus—ablation. 63. Antelexion and hyperplastic endometritis—dilatation; curettage. 6, 19, 38, 60, 61, 64, 66, 87, 99. Hyperplastic endometritis—curettage. 93. Laceration of the cervix uteri and hemorrhoids—trachelorrhaphy; excision of hemorrhoids. 2, 4, 11, 28, 30, 31, 65, 68, 85. Laceration of cervix and perineum and hyperplastic endometritis—68 had secondary hemorrhage from the vagina on the seventh day. 71, 72, 80. Laceration of cervix and perineum. 57. Laceration of cervix and perineum, complete, and hyperplastic endometritis. 10, 73. Laceration of cervix and hyperplastic endometritis. 21, 51. Laceration of perineum, recent.

Major Operations at St. Barnabas' Hospital.—25, 48, 56, 84, 27. Ovarian cyst, multilocular—25, bilateral; 27, dermoid inflamed. 8, 46. Parovarian cyst—8, twisted pedicle, peritonitis; 46, removed by posterior colpotomy. 18, 35. Ovarian abscess—35, colpotomy. 22, 75. Fibromyoma uteri, multiple—22, vaginal total extirpation; 75, supravaginal amputation. 26, 59. Fibromyoma uteri—26, sloughing, reaching near to the navel, vaginal extirpation; 59, sloughing, removal without extirpation of uterus. 41. Fibromyoma uteri with retroflexion and hyperplastic endometritis—enucleation of fibroids; ventrofixation and curetting. 9. Fibrocystic tumor of uterus—this was by far the severest case I ever saw. 1, 37, 47. Carcinoma of cervix uteri—1, partial removal; 37, 47, total vaginal extirpation. 3, 13. Lateroversio sinistra; very intense neuralgia of R. B. lig.—3, perfect recovery of a bedridden patient from years of neuralgia after vaginal total extirpation. 14. Tubercular peritonitis—abdominal section. 29, 92. Pyosalpinx and abscess of ovary—vaginal total extirpation. 36. Prolapse of uterus; laceration of cervix and perineum—trachelorrhaphy; perineorrhaphy; ventrofixation. 5. Retroflexion of the uterus with hypertrophy of the cervix; hyperplastic endometritis; adherent tubes and ovaries—an invalid for years; amputation of cervix; ventrofixation of uterus; enucleation of ovaries and tubes from their bed of adhesions, but not removed; recovery perfect. 7, 39. Retroflexion of the uterus and laceration of perineum; hyperplastic endometritis. 17, 43, 81. Retroflexed uteri with hyperplastic endometritis—17 suddenly died fourteen days after operation; the autopsy showed nothing abnormal, except that the right ventricle of the heart was over-distended with blood; there was fatty degeneration of the whole heart; the patient had lost an unusually large quantity of blood at each menses, and was very anemic; the temperature during her illness showed only the slightest variation from the normal. 23, 90, 91, 96. Retroflexion of uterus—ventrofixation. 34, 94. Retroflexion of uterus with cystic degeneration of left ovary—resection of portions of the ovaries and consequent suture. 54. Retroflexion with chronic relapsing pelvic peritonitis—removal of ovaries and tubes; ventrofixation of uterus; iodoform poisoning. 78, 88. Retroflexed uterus; hyperplasia of endometrium; laceration of cervix and perineum—curettage; trachelorrhaphy; perineorrhaphy; ventrofixation. 15, 86. Pyonephrosis due to calculi—15, right kidney being well, the left one was removed, together with twenty stones. 76. Hydrone-

phrosis—extirpation by abdominal route. 24. Obstruction of bowel by adhesions—celiotomy. 42, 67, 69. Appendicitis. 50. Abdominal pregnancy—at four and a half months; placenta left in and gradually removed later on. 70. Puerperal cellulitis, pelvic—inguinal incision. 77. Ulceration of rectum and bladder—inguinal colotomy; vesico-rectal fistula. 89. Irreducible inguinal hernia—Marcy operation; radical cure. 79. Fracture of descending ramus of the pubes; laceration of the vagina, vestibule, and perineum—child 5 years old; wiring of bones and uniting the lacerated tissue, which extended high up into the pelvis; in seven weeks the child was able to walk about.

Minor Operations at Private Houses.—23, 33. Fissure in ano; hemorrhoids. 36. Hemorrhoids. 62. Fissure in ano. 75. Fracture of coccyx—extirpation. 55a, 61, 67. Nocturnal incontinence of urine—Tod Gilliam operation. 86. Cyst of vagina—extirpation. 48. Cryptiform hymen; stricture of os internum—excision of hymen; dilatation of cervical canal and glass plug. 3. Congenital closure of vagina; hematocolpos—vagina closed for three centimetres; mucous membrane of vagina stitched to vulvar mucous membrane. 84. Carcinoma of cervix curetted. 73. Laceration of cervix; recto-vaginal fistula. 7, 16, 31, 51. Fibropolypus of uterus—7, presenting at the os externum; hemorrhage and fever. 8, 66. Laceration of perineum—66, primary operation. 40, 46, 49, 56, 76. Laceration of perineum, complete—56, primary operation. 60. Laceration of perineum, complete; hyperplastic endometritis and laceration of cervix. 64. Laceration of perineum; hyperplastic endometritis; laceration of cervix; two large rectal polypi. 45, 52, 61, 74, 81, 85. Retained chorion—45, placenta succenturiata; hemorrhage four weeks after labor. 24, 25, 63, 69, 78, 83. Hyperplastic endometritis. 37. Septic puerperal endometritis—curettage and irrigation. 17, 29, 44, 59, 82—Septic endometritis following abortion—44, temperature 105°; 59, criminal. 6. Acute septic endometritis and salpingitis dextra after abortion—curettement. 39. Hyperplastic endometritis due to multiple fibromyoma—patient suffered much with menorrhagia and was desirous of offspring; she was therefore curetted. 11, 43, 68, 72. Stricture of os internum—dilatation and glass plug. 13. Stricture of os internum and externum (dilatation of cervical canal)—excision of cervix around os externum; dilatation of os internum. 9. Stricture of os internum, with retroflexed adherent uterus—after the Schulze method an attempt was made to break up the adhesions, but failed. 2, 19, 27, 32, 43, 53. Bilateral laceration of cervix, laceration of perineum, and hyperplastic endometritis—53, secondary hemorrhage on the twelfth day, which was checked by ligature suture. 4, 10, 20, 38, 70. Laceration of the cervix and hyperplastic endometritis. 55. Multiple laceration of cervix and purulent endometritis. 65. Subperitoneal abscess in the left iliac reaching up to the kidney—incision above the left Poupart's ligament, with a counter-opening in the left loin.

Major Operations in Private Houses.—1, 34, 47, 80. Fibromyoma uteri—1, sloughing, sepsis, supravaginal amputation, rubber ligature, prompt recovery; 80, multiple bleeding fibromyoma, supravaginal amputation; 34, multiple bleeding, vaginal total extirpation by morcellement; 47, tumor presents in the os after an abortion, sepsis, temperature 104.5, prompt recovery after enucleation of many nodules. 22. Double pyosalpinx and abscesses of ovaries—by celiotomy. 5, 14, 18, 21, 26, 28, 35, 57,

58, 79. Acute purulent appendicitis—21, died within a few hours, the whole peritoneum was filled with pus; 26, died in four weeks from abscess of the lung; 58, died in two days from septic peritonitis. 50. Chronic appendicitis. 41. Biliary calculi—in gall bladder, eighteen calculi. 15. Hernia, umbilical—strangulated; died several weeks after the operation from some cause not connected with the surgical interference. 30. Hernia, femoral—strangulated. 54. Laceration of cervix and perineum; hyperplastic endometritis; retroflexion of uterus—curettement; perineorrhaphy; trachelorrhaphy and ventrofixation. 77. Retroflexed uterus—ventrofixation. 87. Tubal pregnancy—ruptured; hemorrhage. 71. Exploration of abdominal contents by section—died in ten days, exhausted from general peritoneal carcinoma. 42. Large lumbar abscess due to calculi of kidney—lumbar incision. 12. Vesico-utero vaginal fistula.

1002 BROAD STREET.

TRANSACTIONS OF THE CINCINNATI OBSTETRICAL SOCIETY.

Meeting of April 17th, 1896.

The President, RUFUS B. HALL, M.D., in the Chair.

CONGENITAL TEETH

was the subject of a report by DR. E. S. MCKEE. The reporter presented a mother and a pair of twins, the latter 6 weeks of age. He was called February 22d, 1896, to see Mrs. L., a 11para, in labor at the eighth month of gestation. Twins, both male, were soon delivered; one was found to have the two inferior incisor teeth present, both children being small and poorly developed. The mother was a small woman. Both teeth were loose, and one dropped out at the tenth week and was lost. The child died suddenly at the twelfth week, the one tooth remaining and is still in Dr. McKee's possession.

The premature eruption of teeth is due to some abnormal development of the bone. Probably most cases have some connection with rickets, and appearances would indicate that this child had rickets. In children who cut their teeth very early the fontanelles close early, but not in the cases where the teeth are congenital. The enamel is very thin in these teeth and they are without roots. Congenital teeth are quite rare. The Paris Maternity reports out of 17,578 births between 1858 and 1868 only 3 cases of congenital teeth—about 1 to 6,000. Out of 500 cases collected by Margitot¹ in 1876 in which the eruption of the first tooth was noted, only 1 was congenital.

Ballantyne² reports seventy cases gleaned from the literature. Premature labor occurred in the case of Crausins at the sixth

¹ Margitot: *Gazette des Hôpitaux*, vol. xlix., pp. 412-427, 1876.

² Ballantyne: *Edinburgh Medical Journal*, May, 1896.

month, in Helwig's at the seventh, in Lamm's prematurely, and the case reported by the author occurred at the eighth month. Hair was noted as well as teeth in the case of Bartholin,¹ there being a tuft of yellow hair on the left cheek. Schurig² reports a similar case. Precocious mental development does not follow premature eruption of the teeth, nor does the opposite seem to be indicated. Perhaps this idea has gained credence from Pliny.³ The early closure of the cranial sutures and fontanelles in association with congenital dentition has been claimed by Mackenzie,⁴ but Jacobi⁵ has never noted it, and Forchheimer⁶ has found large fontanelles and diastatic sutures quite as common.

The etiology of congenital teeth is probably best described as the premature occurrence of the processes which normally lead to the cutting of the milk teeth; in a few instances it is probably due to a true ectopia of the dental follicle and its tooth. The extraction of teeth in the mother during pregnancy occurred in the case of Flesch. She had ten teeth extracted in the third month, and in the author's case two teeth were extracted also in the third month. The mental influence of this is a matter of conjecture.

Inheritance is shown in the case of Mattei, the infant's mother being born with a tooth. In Limrick's case the mother had two congenital teeth; her second child, a boy, had the same anomaly, and her sister's child, a girl, had two congenital lower incisor teeth. Molar teeth are reported only by Jacobi, Bartholin, Bouchut, and Kaufman.⁷

Dangling uselessly and aimlessly in the mouth, a tooth should unquestionably be removed; otherwise a safe rule is to let it alone, unless there are special indications present for action. Teeth are sometimes so situated as to prevent complete closure of the mouth, to make nursing painful, and to endanger the nourishment or life of the child. Under these conditions the way is clear for action. Margitot⁸ probably magnifies the danger from hemorrhage in extracting congenital teeth. Having lost one child, he lays down the rule never to extract these teeth. In his case the hemorrhage recurred on four separate occasions and proved fatal in spite of all treatment. This is the only case where serious hemorrhage followed. If the child is puny and delicate, perhaps syphilitic, hemorrhages are possible. Some authors claim the possibility of no milk tooth appearing after a congenital tooth.

¹ Bartholin: "History Anatomy Cent.," 1654.

² Schurig: "De Fetam Dentibus," p. 207, 1732.

³ Pliny: "Nat. Hist.," lib. vii., c. 16, 1601.

⁴ Mackenzie: New York Medical Journal, vol. xxxv., p. 70, 1882.

⁵ Jacobi: "The Intestinal Diseases of Infancy and Childhood," pp. 102 and 103, 1887. "Congenital Molar Tooth," New York Medical Journal, vol. xxxv., p. 70, 1882.

⁶ Forchheimer: "Diseases of the Mouth, Non-surgical," Archives of Pediatrics, vol. vi., p. 691, 1889.

⁷ Kauffman: Medical Record, vol. xlii., p. 589, 1892.

⁸ Margitot: Gazette des Hôpitaux, vol. xlix., pp. 412-427, 1876.

Shakspeare mentions the subject quite frequently. In "Richard III." the Duchess of York says:

Marry, they say my uncle grew so fast that he could gnaw a crust at two hours old. 'Twas full two years ere I could get a tooth.

QUEEN MARGARET—That dog that had his teeth before his eyes.

KING HENRY VI.—Teeth hadst thou in thy head, when thou wast born, to signify thou cam'st to bite the world.

RICHARD—For I have often heard my mother say, I came into the world with my legs forward. The midwife wondered and the women cried, O Jesus, bless us, he is born with teeth! And so I was, which plainly signified that I should snarl and bite and play the dog.

In English and French history we hear of the congenital teeth of Richard III., Louis XIV., Richelieu, Mirabeau, and Mazarin.

DR. W. D. PORTER presented a

UTERUS REMOVED PER VAGINAM

at Christ Hospital two weeks ago yesterday, using ligatures. The patient is 46 years of age; has had nine children, the youngest 4 years of age. She was in good health until three months ago. About that time she was taken with a rather profuse uterine hemorrhage, occurring at the middle of the intermenstrual period. Dr. Edmund Shields, the family physician, after treating her medicinally one or two days, asked me to see her in consultation. She was bleeding so profusely on that evening that we thought best to pack the vagina. The next morning we administered ether, curetted the uterus, and removed a ragged, hard piece of tissue as large as a filbert. The specimen shows the point on the posterior wall and a little to the right side from which that piece of tissue was removed. It would have been easy to perforate the wall of the uterus at this point. The specimen was examined by Mr. Berry and unmistakable evidences of cancer found. The patient was advised to have the uterus removed, and, after considering it for ten weeks, decided two weeks ago to have it done. I think I could safely let her get up at this time, but will probably keep her in bed a week longer.

DR. PORTER also reported a case of

EXTRAUTERINE PREGNANCY.

The patient, aged 34 years, has had four children, the youngest being about 8 years of age. Three years ago she had a miscarriage at about the eighth month, and the fetus had probably been dead a week or more. She menstruated last the 6th of February. In March she did not menstruate. She suspected she was pregnant, but had no bad symptoms until the 21st of March. At that time she was taken with a sudden and severe pain in the abdomen and was confined to bed for several hours. About the time she began to think of sending

for a physician the pain subsided and she did not send. Two days later she had another attack of pain, but not so severe. She then went five days, to the 28th of March, when she had another severe attack in the night, which lasted several hours. On the 30th she had a still more severe attack, and I was sent for. I saw her late in the evening. There was profound shock. She complained of severe pain; the extremities were cold; the face was cold; the pulse was very fast and thready, and I felt sure she would not live long. I gave her a hypodermatic injection of morphine, and by morning she had rallied and was fairly comfortable. She was taken next day to the Good Samaritan Hospital. Two days after going to the hospital she passed some little decidua masses. The diagnosis from the history alone was unavoidable. For years she had not missed a menstrual period until the one in March; the attacks of pain and the shock were characteristic; and, finally, the expulsion of decidua masses was almost unnecessary confirmation. The physical examination did not reveal much, except that the uterus seemed rather fixed and there was a great deal of tenderness on the right side. The operation was done on the 4th of April. When the abdominal cavity was opened it was found filled with thickened blood, mostly of a light chocolate color, and black clots, showing there had been an early hemorrhage and one later. Rupture of the right tube had occurred and it was adherent to the omentum.

The patient did very well for twenty-four hours. After that period she developed a rapid pulse, and the temperature, which had been 101° for twenty-four hours after the operation, went up to $102\frac{1}{2}^{\circ}$. She had lost control of the sphincters and there were involuntary discharges from the rectum and bladder. As she had been purged pretty freely, and as there was no tympanites, one-fourth of a grain of morphine was given hypodermatically. By the next morning these symptoms had cleared up and her pulse had come down to 120 , and she has since progressed without trouble and is making a good recovery.

DR. BONNIFIELD presented a

DERMOID CYST.

On examination per vaginam I found the uterus to the left side of the pelvis and high up, which made me think this growth was intraligamentous. The fluctuation was so distinct and the tumor so uniform that I believed I had a plain ovarian cyst. Upon opening the abdomen I found a cyst that presented nothing unusual and evacuated a fluid of a dark coffee-ground color. I then found the growth was intraligamentous, and I had much trouble in dissecting the broad ligament from it. On examination of the tumor I found numerous rounded masses of sebaceous matter, as in the case Mundé has reported. There are several pieces of bone and some eight or ten teeth, some incisors and some bicuspid. In the lower part of the cyst there is a fresh blood clot and an organized blood

clot, showing that bleeding has taken place comparatively recently. The tumor is a mixed one, dermoid in part and an ovarian cyst in part. There was an unusual amount of stitching to be done, and at the best there was a large amount of raw surface on the posterior part of the uterus. A drainage tube was left in twelve hours, but there was only a little drainage, about a drachm every hour. She has had no trouble and is getting along well.

BRIEF OF CURRENT LITERATURE.

OBSTETRICS, GYNECOLOGY, AND ABDOMINAL SURGERY,

IN CHARGE OF THE EDITOR AND DR. JULIUS ROSENBERG.

PEDIATRICS,

IN CHARGE OF DR. A. RAYMOND-SCHROEDER.

OBSTETRICS.

Adjustable Axis-traction Forceps.—Milne Murray¹ has devised an instrument which seems to possess distinct advantages over former types.

The traction rods are jointed to the blades in the usual way, as near the fenestrum as possible. They then run down close to the shanks and along the back of the handles, and at a point half-way down they then turn back at a right angle for a distance of nearly four and a half inches. The horizontal part of these rods is oval in section, and the upper one is divided into distances half an inch apart, which are numbered 0 to 7.

The handle is applied to these horizontal rods by a block pierced to allow them to pass through. This block can be fixed in any position by a pinching screw, which is secured in such a way that it cannot slip out. To this block is fixed the handle by a joint which permits motion in a plane parallel to the rods. This motion is necessary to allow the handle to fall into the proper line of traction for each position on the rods. To the pin of the hinge joint is fixed a sector, which moves with the handle. The periphery of the sector has marked on it the position proper to it for each position of the block on the rods. Against one of these marks is placed the word "normal." When the handle is adjusted to this mark the instrument is, as regards construction and efficiency, an ordinary pair of axis-traction forceps.

To adapt them to a pelvis whose inclination is less than normal it is only necessary to shift the block one or more divisions nearer the handle; while to adapt them to one whose inclination is greater than normal the block must be moved one or two divisions further from the handle. If the index is kept at the figure on the sector corresponding to the figure at which the

block is set on the handle, the line of traction will always pass through the centre of the fenestrum ; but, of course, its inclination to the vertical will vary with the position on the rods at which the handle is fixed.

Success in the use of these and other forceps depends upon the manner in which the tractive force is applied. A uterine pain begins in an almost imperceptible fashion, its invasion is prolonged, and its climax reached with the finest progressive graduation of intensity. In this way the reaction of the resilient soft parts on the movement of the head is given full play and their guiding effect on the advancing head globe fully taken advantage of. It follows, then, that every tractive effort made by means of the forceps should follow the same rule. It is obviously of the utmost importance that the force should be applied as carefully and as gradually as is the case with the uterine pain. Any departure from this method, and the application of a sudden effort or "jerk," must so displace the more or less resilient soft parts and almost entirely abolish any guiding influence which they naturally possess.

An Anencephalic Monster is recorded by Alfred C. Wood.* It represents one of the commoner forms of fetal malformation.

The Breasts and Nursing.—Physicians have been reproaching women for not nursing their offspring, without, however, realizing that a large number are unable to do so. In the Freiburg clinic fifty-four per cent of women confined there can nurse their children for ten days, in Stuttgart only twenty-five per cent, while the percentage in Halle is sixty-five. In Hegar's experience thirty per cent of mothers can nurse their infants for six months. The health of the population depends largely upon the ability of mothers to nurse, and the infant mortality increases with the degeneration of the mammæ; this, to a certain extent, has been modified by a more intelligent infant feeding. The fight of physicians against the corset has a certain similarity to these attacks upon women for shirking their maternal duties. Women need the support of the corset to supplement the weakness of their bones, ligaments, and muscles, and a large number do not nurse because their breasts are empty. The remedies lie in raising the health of the race, otherwise the breasts will continue to degenerate and future women will be unable to nurse.

Hypertrophy of the Breasts is reported by Rothmann* as occurring in a virgin of 15. The growth of the breasts was of four months' duration. The circumference of the right mamma was seventy-three centimetres and of the left sixty-six centimetres ; their weight was seven and five and a half kilogrammes respectively. They are pediculated and hang down to the thighs. The skin is normal, and, while single lobes can be distinctly felt, there is neither fluctuation nor tumefaction. Aside from being anemic the girl is in good health. Rothmann proposes to resort to thyroid feeding, and if this should not be of benefit he will extirpate the breasts.

Congenital Solid Tumors of the Proximal Portion of the

Umbilical Cord.—The literature contains only four reports of such cases, of which Virchow and Kaufmann described two which were telangiectatic myxosarcomata. Winckel* observed another case, also of the same variety, but with a predominance of lymphatic development causing an increased growth of the endothelial cells and cystic spaces in the walls of the tumor. The tumor had its origin in the cutis of the umbilical stump. Obstruction in the circulation and traumatism are of etiological importance, proven by the fact that umbilical hernia was present in the four cases reported. The lesions which can produce these tumors are also the cause of premature fetal death. This accounts for the infrequency of these cases. The therapy is extirpation at the earliest date possible.

Diagnosis of Pregnancy by the Microscopical Appearances of the Urinary Phosphates.—In 1887 Dr. William B. Gray, of Richmond, stated that he could diagnose pregnancy within twenty days of conception by the changes in the microscopic appearances of the phosphates. These claims have been recently indorsed by William E. Park.* Dr. Gray's directions for preparing the urine for examination are as follows: Take about one inch and a quarter of the suspected urine in a small test tube and add about one-third as much of Tyson's magnesian fluid as there is of urine. This will throw down the triple phosphates in fifteen or twenty minutes and furnish the necessary material for microscopic examination. Tyson's fluid is composed of one part each of the muriate of ammonia, aqua ammonia, and sulphate of magnesia, and eight parts of distilled water. When conception occurs the triple phosphates in the urine change in form. They lose their feathery appearance, the change beginning at the tip and progressing toward the base. One side only may be affected, or both, leaving only the shaft and perhaps a few fragments adhering. The shaft assumes a beaded or jointed appearance. These changes commence within twenty days after conception, and are most marked in the early months and almost absent in the later months. When the death of the fetus occurs the phosphates resume their normal appearance.

Disinfection of the Hands during Labor.—H. B. Bashore* advises sterilization of the hands during labor by soap and water, ether for one minute, and scrubbing in 1:1000 bichloride for three or four minutes.

Eclampsia.—The induction of premature labor is advocated by H. D. Thomason,* especially in cases presenting severe prodromic symptoms and in ante-partum convulsions. The article includes a defence of this form of treatment. In cases with convulsions beginning or continuing during delivery, he advises venesection if the patient is plethoric, with cathartics, diaphoretics, etc., as adjuvants. When the patient is anemic, with rapid and feeble pulse, veratrum should be used. In the discussion of this paper W. G. Bogart and Fish state that the presence, and A. P. Clarke and J. W. Bovée that the absence, of albumin in the urine are not safe diagnostic points of the

advent of convulsions. Fish believes that convulsions will not return if the pulse is reduced to 70 and maintained there by the use of veratrum viride and morphine. Bovée says that during pregnancy, while the patient is doing fairly well, labor should not be induced until convulsions appear, and even these may be stopped and the case often allowed to go on to term by using the hot pack, pilocarpine, bleeding with transfusion of normal salt solution at the same time, hot baths, and hydragogue cathartics. Two cases treated by veratrum, with one death, are recorded by M. M. Bauer.* One case is reported by J. Van Doren Young"; recovery. J. S. Peterson" records three cases; all recovered.

Extrauterine Pregnancy occurring twice in the same patient is reported by L. E. Frankenthal.* His case is the thirteenth on record. He also reports five other cases of extrauterine gestation operated on with one death. His personal experience includes thirty-seven cases, and he concludes as follows: 1. Impregnation occurs in the tube. 2. In the majority of cases the etiology of extrauterine pregnancy can be established by a mechanical hindrance to the wandering of the fecundated ovum from the tube to the uterine cavity. 3. Treat conservatively only those cases seen some time after primary rupture, where you feel fairly certain of the death of the fetus, where the alarming symptoms have subsided, and where presumably absorption is going on. 4. Operate early, for reasons given above. 5. The operation during shock is not contraindicated, for frequently just the removal of the foreign body from the peritoneal cavity removes shock. 6. Drainage, preferably vaginal, should be done in all cases. 7. To relieve shock transfuse salt solution where the amount of blood lost is not too great and where the hemorrhage has not occurred repeatedly at long intervals; for then direct transfusion should be practised, as the functions of vital organs have become impaired and they need more than a mechanical stimulus—they need red blood corpuscles. 8. To hasten some operations merely clamp adnexa and leave clamps *in situ*. 9. Whenever possible remove the placenta; if not, tampon and drain. 10. In deciding when to operate after viability, do not consider the child, for not only are they short-lived (of fifty-seven cases collected by Harris five only were alive after two years), but likewise are they deficient in development. 11. Sterility on account of the number of criminal abortions and prevention of conception is not a very reliable symptom.

T. J. Watkins,* in criticising Frankenthal's first proposition, says: It is not plausible to believe that spermatozoa normally pass into the tubes, because: 1. The endometrium by a valve-like formation normally obstructs entrance into the tubes. 2. Motion of the cilia of the tubes is toward the uterus. 3. The uterine portion of the tube is not much larger than a fully developed ovum, and too small to permit a fecundated ovum, after slight development, to pass. 4. Spermatozoa have been found only in very few instances in excised tubes. It has not been

proved that the normal place of impregnation of the ovum is ever in the tube, but the cases where pregnancy has occurred, after excision of the tubes, at or near the horns of the uterus, are probably positive proof that the ovum is sometimes, at least, impregnated in the uterus. It would seem, therefore, that conditions that would predispose to ectopic gestation are: 1. Injury or absence of the valve-like formation of the endometrium over the uterine ostium of the tube. 2. Injury or absence of the cilia in the tube. 3. Enlargement of the proximal end of the tube, such as exists soon after miscarriage, labors at term, and subinvolution. It is a fact that tubal pregnancy frequently occurs soon after miscarriage or labor. The statement frequently made that desquamative salpingitis is a fruitful cause of tubal pregnancy is not substantiated by examination of pregnant tubes. I have neither seen nor read of pregnant tubes that showed much if any chronic inflammatory thickening. Bland Sutton says that the pregnant tubes which he has examined showed no old inflammatory thickening in the walls, and that he has found the entire epithelium intact. Rumpf in a recent paper stated that, "as an ovum will not embed itself in a uterus whose mucosa is diseased, it will not embed itself in an entirely diseased tube."

Elisha S. Boland," in reporting five cases of operation for ruptured ectopic pregnancy—all successful, though four of the patients were in the most extreme collapse—offers the following postulates: Extrauterine pregnancy is more common than has generally been supposed. Interperitoneal hemocele is almost always the result of a ruptured extrauterine pregnancy. Diagnosis of extrauterine pregnancy in the pre-placental period, before rupture, is uncertain and seldom urgent, and if a diagnosis is made the time of operation can be selected to suit attending circumstances. Diagnosis after rupture should be made by the general practitioner. It is easy and of greatest urgency in view of prompt interference. Prompt laparotomy after rupture is the only safe and conservative course. The condition of peritoneal collapse—that is, shock and hemorrhage—is no bar to immediate and successful operation. The operation of laparotomy for extrauterine pregnancy is comparatively easy and the mortality from it is low. The after-effects of the operation are milder in extrauterine pregnancy than in laparotomies for appendicitis, pus tubes, uterine fibroma, or ovarian cystoma, and do not involve sterility.

F. Henrotin" expresses the belief that vaginal section for ectopic gestation is applicable only in certain classes of cases which are exceptional, and that laparotomy is preferable in the large majority. The cases which he considers operable to greater advantage by the vaginal route are described. In discussing this paper H. T. Byford advises operation immediately after rupture, while K. Sandberg considers it safe to wait after the first rupture until the patient has gained some strength, and W. Reynolds advocates delay until shock passes off and does not believe operation justifiable unless this has occurred

even after waiting for a day. C. S. Bacon prefers the incision in the anterior sac to one in the posterior. This is also approved by H. P. Newman as more likely to avoid the placental site.

A case of tubal pregnancy operated upon through the abdominal incision is reported by H. M. Jones¹¹; recovery. Four cases are recorded by T. J. Watkins.¹² Abdominal pregnancy in a heifer occurred in the practice of C. A. Garrison.¹³

Frequency of Pelvic Contraction.—Williams,¹⁴ in the routine examination of one hundred consecutive cases at the Johns Hopkins Obstetrical Service, found fifteen abnormal. While the number is too small to base any definite conclusions on, it is certainly a remarkable showing, and proves that contracted pelves are far more frequent with us than is generally supposed, and the reason that they are not discovered more frequently is that they are not looked for.

Criticism of the Attempts to diminish, through a Certain Diet, the Dangers of Pelvic Contraction.—Florschütz¹⁵ reports three new cases from the clinic in Giessen and collected twenty-nine other cases, in which during the last eight to ten weeks of pregnancy the woman was placed upon Prochownick's diet, to which in four cases the premature inducement of labor was added. The success was, with one exception, most striking, and Florschütz believes that this method can successfully compete in many cases with the relative Cesarean section and artificial premature labor. *Conjugata vera* below eight centimetres is a contraindication, and he also advises against the combination of Prochownick's diet with premature labor.

Symptoms and Treatment of Pregnancy and Labor in Fetal Death occurring during the Second Half of Gestation.—Stäger.¹⁶ The material consists of one hundred and twenty-three cases observed in the Maternity Hospital of Bern. A positive cause for fetal death could be determined in fifty-four cases; of these, thirty-two women were syphilitic. Abnormal subjective symptoms are rare (eighteen times), and atrophy of the breasts is not characteristic in all cases. The diagnosis is made by the arrest of the uterine growth and the absence of fetal heart sounds. At the time the diagnosis of a macerated fetus is not difficult. The retention *in utero* of a dead fetus varies from a few hours to six weeks. The death of the fetus leads to abnormal presentations, which, however, are rarely of consequence. Labor should not be induced prematurely except when other conditions demand this. The puerperium is generally normal.

Reports of Cases from the University Hospital of Goettingen.—Arndt.¹⁷ *A. Two symphyseotomies.* 1. A woman with a slightly contracted pelvis (*conjugata diagonalis* twelve centimetres) had been twice delivered of dead children at term. In her third pregnancy labor was induced prematurely, and to save the child symphyseotomy was performed. A living child was secured. The woman recovered; the symphysis

united by a firm bony union. 2. Vīpara, æt. 38; first pregnancy, craniotomy; second and third pregnancies, version and dead children; fourth pregnancy, premature labor and version, child died two hours post partum; a succeeding pregnancy terminated by abortion. The woman has a contracted pelvis with conjugata vera of eight centimetres; child presents transversely; membranes have prematurely ruptured. Version, followed two hours later by symphyseotomy; considerable hemorrhage from the retroperitoneal tissues, also post-partum hemorrhage. The uterus contracted after some time; slight bleeding, however, continued, and the pulse remained feeble. A vaginal examination showed a tear in the anterior vaginal wall extending upward. Laparotomy was performed with the view of closing a probable uterine tear; the uterus, however, was found to be intact. The woman died shortly afterward, and a subsequent post-mortem showed that the vaginal rent did not extend into the uterus, but led into a tear of the parametrium which would admit a hand. A firm tamponade of this laceration might have saved the woman's life. This case is in so far of especial interest that an extensive laceration occurred in spite of delayed extraction until full dilatation had been naturally effected.

B. Extirpation of a pelvic tumor during pregnancy. The growth is of bony consistence. Some portions, however, appear soft. It is the size of an orange and completely blocks the pelvic outlet. The location is the ascending ramus of the pubes, extending to ischial spine. The tumor—a fibrosarcoma partially covered by bony walls—was removed by the vaginal route. Pregnancy continued undisturbed. Successful delivery at full term.

C. Umbilical hernia containing the heart, in a new-born infant. When seen the child had been born five hours and appeared to be in good health. At the umbilicus was a tumor the size of an apple, continuous with the cord, through the walls of which could be seen coils of intestines, the liver, and the pulsating heart. Laparotomy was performed seven hours post partum. It was found that the hernial sac contained, besides the heart and the deformed liver, the stomach, the ileum, and part of the colon. The heart, which was not surrounded by pericardium, could not be replaced in the thorax, making the prognosis absolutely fatal. Death occurred shortly after the termination of the operation.

D. Rupture of the uterus after version; Porro operation; recovery. Version for prolapse of funis one and a half hours after rupture of the membranes, with os fully dilated. Version and extraction easy. Soon afterward the woman collapsed, the cause of which was a utero-vaginal tear in the right anterior fornix. Two hours later Porro operation. It is remarkable that rupture of the uterus should happen to an experienced operator from an easy version after complete dilatation. A microscopical examination of the uterine muscularis showed nothing abnormal.

Puerperal Neuritis.—Köster." The affected nerves were the axillaris and the musculo-cutaneous of the left side. The case was under observation for eight months, but in spite of active treatment there was no improvement. The woman was 25 years old, always healthy, and first complained of pain and weakness of the left arm two weeks after a normal confinement. There was no fever during the puerperium. Most authors hold that puerperal neuritis is the result of poisoning by various substances which enter or originate in the organism. In cases where fever is present or has preceded the attack the etiology is clear, because the pathogenic bacteria of the puerperium are known. When, however, the neuritis occurs after an afebrile puerperium, the cause lies probably in the toxins formed by the involution of the genitals. The prognosis is not always so bad as in the case reported, although recovery or improvement may be delayed and often tests the patience of patient and physician.

Infanticide due to Carelessness.—Connick." A servant girl, who succeeded in hiding her pregnant condition, delivered herself in the water-closet. Soon after the infant was found with such severe injuries that death ensued. The inferior maxilla was broken in three places, and the soft parts of the oral cavity were deeply lacerated. In expert testimony Connick testified that these injuries were caused by the mother, who, to accelerate its birth, inserted her fingers into the child's mouth. The woman was acquitted.

Infanticide with Carbolic Acid.—Cöster" describes the characteristic changes in the mucous membrane produced by a teaspoonful of pure carbolic acid which was administered to a new-born infant with homicidal intent. He found the stomach mucous membrane of grayish-yellow color, and not white as is claimed in most text books. In a case of suicide with carbolic acid he saw the veins filled by a bright-red solid substance, as if artificially injected, and he explains this by the rapid diffusion of the poison in the circulation, producing instantaneous blood coagulation. The intense poisoning qualities are due to its reducing influence upon hemoglobin.

Cohn" observed a case in which death was produced by placing a carbolic acid (pure?) compress upon the umbilicus of a new-born infant. Death took place the following day, and a post-mortem disclosed beyond doubt that death was due to carbolic acid intoxication.

Version or High Forceps.—Schultz." All prominent German obstetricians absolutely condemn the high forceps, and instead recommend version where the child is movable, and craniotomy in cases where the head is wedged in the inlet. From his experience in the Budapest clinic Schultz, however, concludes that in certain cases the high forceps is a good operation. Prophylactic version is absolutely condemned. His conclusions are briefly as follows: If the membranes are not or are only recently ruptured and the termination of labor is absolutely indicated, version should be performed. High forceps,

however, are indicated if the liquor amnii has drained away. In slightly contracted pelvis high forceps instead of version is advised. In marked pelvic deformity the high forceps should only be tried tentatively, and, if not successful, craniotomy is to be substituted (symphyseotomy?). Schultz believes that the high-forceps operation requires no more skill than any other obstetrical operation. (The high forceps—that is, the application of the forceps blade to the head movable above the brim—has been and is condemned by such men as Litzmann, Gusserow, Schröder, Fehling, Zweifel, Leopold, and others. The reviewer's personal experience is that the true high-forceps operation is one of the most difficult and dangerous obstetrical operations, which only the expert operator has a right to attempt.)

Supravaginal Amputation of the Cervix for Carcinoma during the fifth month of pregnancy is recorded by Charles A. Morton." On the fourth day after operation the patient aborted a decomposed fetus. Recovered.

Syncope.—Stapfer" believes that there are two varieties of syncope, characterized in one case by stoppage or a tendency to it in diastole, in the other in systole. The diastolic sort seems a matter of idiosyncrasy, determined by certain morbid states or poisons, such as chloroform. The systolic is produced by effusions of blood or by paralysis of a vascular region, especially that of the mesentery, which on account of its effects merits the name of intravascular hemorrhage. The syncope of labor and pregnancy, following effusions of blood, seems due to a phenomenon of this nature. When it occurs during pregnancy he advises light circular massage of the epigastric region, interrupted by pauses; when during labor, he combines with this similar massage and compression of the fundus of the uterus. On account of its influence upon the cardiovascular apparatus, methodical massage of this character is able to prevent or overcome systolic syncope if the paralysis is not complete; but this effect is diminished or absent in the diastolic variety. The abdominal manipulations provoke contractions of the uterus and of the mesenteric vessels, increasing the blood supply of the heart and entire circulatory system, which is stimulated and made rhythmical in action if they are methodically employed.

Puerperal Sepsis.—H. T. Machell," in a good paper on this infection, makes the very true remarks that we all have a natural aversion to admit the possibility that sepsis may arise in our own practice, and we try to adopt every other explanation of the condition of the patient. Notwithstanding this we should bear in mind that under strict asepsis the convalescence from labor is always perfectly smooth and unattended by any elevation of temperature, unless some intercurrent disease is present; that the mild disturbances which are frequently seen must therefore be considered mild sepsis; and that it is seldom possible to say in advance that they are not the initial stages of a severe attack. Every rise of temperature or disturbance of

health during the puerperium is not, of course, due to sepsis but every such disturbance should be considered sepsis until some other cause can be established to account for it. This is preferable to the physician shutting his eyes to the possibility of sepsis and admitting it only after the incurable stage is reached. For twenty-four or thirty-six hours after labor the temperature may be elevated as the result of fatigue, but if the subsequent temperatures should be above 99° its cause should always be promptly investigated. It may be due to (1) constipation, (2) mammary disturbances, (3) intercurrent non-obstetric disease, or (4) sepsis.

Early Recognition and Treatment of Puerperal Fever is urged in an able paper by John W. Byers." Where aseptic and antiseptic precautions are complete, pulse and temperature differ little in the lying-in period from what they would be in the non-puerperal condition. A rise of temperature over 99° and quickened pulse should always be held suspicious of septic trouble, as other febrile affections are rare soon after delivery. Infection may be sapremic from absorption of a toxin from decomposing matter in the genital tract, or septicemic from the growth and multiplication of micro-organisms in the blood, or both conditions may occur together. Precious time is often lost in simply giving antipyrin, quinine, alcohol, or diaphoretics, and at the next visit the patient may have had another shiver, the abdomen may be tender or slightly swollen, and she may be beyond chance of treatment. He therefore strongly urges that when fever with quick pulse sets in we should at once begin local treatment. Even though the symptoms, as may afterward turn out to be the case, are due to other conditions than puerperal infection, the local treatment can do no harm, and in the vast majority of cases the rise of pulse and temperature shows the patient is infected. Before commencing treatment a thorough examination of the patient must be made in the following order: the perineum, vagina, and uterus; and it is to be noted that wounds at the lower part of the parturient canal are very serious, from the circumstance that, being near the outer world, organisms enter easily. As a rule, now, tears of the perineum are sutured at once. When this is not done they are at times very liable to become septic. When these wounds are seen to be unhealthy they should be washed with a (1:1000) corrosive sublimate solution, curetted, and touched with the actual cautery or with nitrate of silver solution (sixty grains to the ounce), and then dusted with iodoform. Abscess of Bartholin's gland should be freely opened, cauterized, and packed with iodoform gauze. Septic and diphtheritic vaginitis, if present, should be thoroughly treated in the same way as the septic or diphtheritic conditions of the pelvic floor. The uterus must then be explored, and it is to be remembered that in the great majority of cases puerperal infection emanates from it. The septic virus may have entered through its lymphatics or the patient may have become infected through a decomposing mass lying in its cavity. Certain types of women are apt to

become infected: the anemic, and those who, owing to premature rupture of the membranes, have had a long and tedious first stage. In the prophylactic management of such cases the most rigid aseptic and antiseptic precautions must be taken. In the local treatment of the uterus we have the choice of three methods: simple irrigation, continuous irrigation, and curettage. The plan to be adopted will depend on the condition ascertained by a digital examination. If the finger finds the cervix markedly patulous, and if on exploring the interior of the uterus one feels any foreign mass (often putrid and foul-smelling), or if there is the sensation of a soft tissue which on pressing with the internal finger seems to break down, then even at this early stage the uterus should be carefully curetted, the indications for this operation at this period being: fetor still persisting after douching the vagina, a patulous cervix, and the detection of some decomposing body in the uterine cavity. On the other hand, if the endometrium feels normal (that is, if there seems to be no soft tissue breaking down) simple irrigation is called for, with certain precautions in its technique. The gravitation douche, not the syringe, should be used. The intrauterine tube should be large, in order that a good flush may remove any clots, remains of membranes, *débris*, etc. It should be passed up to the fundus. He prefers for the first douche a 1:4000 corrosive sublimate solution, unless the patient has renal disease or has suffered from post-partum hemorrhage, when some other antiseptic should be employed, as creolin, lysol, or iodine; it is to be noted, as has been pointed out by Watson-Cheyne, that these antiseptic solutions, if too strong, act deleteriously on tissues already weakened by contact with poisonous products, and thus by causing their death may afford more pabulum for the putrefactive micro-organisms; hence too powerful antiseptics should not be employed. In douching out the uterus plenty of fluid should be used; instead of one or two pints, from eight to ten should be employed, and the temperature of the fluid should be 100° to 105° F., as in this way the parts will not be injured, and owing to the heat the douche will have a stimulating effect. In douching care should be taken to see and to examine any membrane, piece of *débris*, etc., which may come away. If after this simple irrigation of the uterine cavity the temperature falls suddenly or gradually, the pulse at the same time becoming slower, it need not be repeated. On the other hand, if, after irrigating the uterus, the temperature remains unaffected, or if after a fall it rises the next day, the douche is to be used again, and if it brings down the temperature and pulse the case may take a favorable turn. If, notwithstanding the repetition of the simple irrigation, the temperature remains unaffected, or even rises, and the patient has further rigors, we must use one of two methods—either continuous irrigation or the curette. Pinard is a strong advocate of continuous irrigation, which he recommends if the temperature remains high on the evening of the third day. He thinks the continuous irrigation of advantage, even if afterward it is

decided to curette the uterus, as it renders the endometrium as aseptic as possible, and the rise of temperature and shivering, which often follow curetting, are either absent or less marked. The continuous irrigation may be employed for as long as twelve hours or more. Weak carbolic lotion, lysol, or boracic acid may be used as the antiseptic in such conditions. This continuous irrigation in many cases has a wonderful effect, and from the Amsterdam clinic Huinereck reports fifty-two cases of puerperal sepsis treated by prolonged irrigation with one, one and a half, or two per cent carbolic acid or a 1 : 4000 corrosive sublimate solution ; following this irrigation the inner surface of the uterus was painted with undiluted tincture of iodine ; all those treated in this way recovered, the treatment being begun as soon as the fever developed. It may be objected to irrigation of the uterus that the mere surface of the endometrium is affected, hence the organisms on the surface alone are rendered inert while those deeper in the tissues are not acted upon ; repeated douching is often painful and entails considerable disturbance of a patient who is already weak and nervous ; and such repeated manipulations may really run the risk of conveying more septic infection. On the other hand, the practical results after this method of treatment are most evident in many cases. There is a type of case occasionally met in which irrigation is of great value, and that is when, owing to the decomposition of a syphilitic fetus, the woman becomes infected before delivery. Here douching out the uterus after labor has begun, before dilating the cervix, is good practice, and the same method can be used if after delivery the temperature keeps up or if after a fall it again rises. If in spite of this continuous irrigation the patient's condition does not improve, he advocates curetting of the uterus, the *rationale* of its action being that the curette removes any decomposing material and the lining membrane of the uterus in which the bacilli find a suitable culture medium for their growth. If carefully done no harm accrues in the use of the curette in the post-partum uterus ; sometimes the operation may be followed by shivering or slight hemorrhage, but if the uterus is packed with iodoform gauze the risk of bleeding is anticipated. Remove the gauze in twenty-four hours, and if after this the temperature again rises recurette, as the chances are there is something still which needs to be removed from the uterine cavity. Curettage is to be done early in infected cases only under certain conditions ; as a rule it is better not to employ the curette until irrigation has been first tried. If the uterus is curetted on the fourth day of the patient's illness it has this advantage in its favor, that the necrosing endometrium is beginning to separate. On the other hand, if examination on the first day of a patient's illness shows that the uterus is empty, curetting will really do harm, as the morbid process may be purely local on the surface of the mucous membrane and the use of the curette will be bad, as we may in this way open up channels by which fresh infection may spread. In cases in which irrigation

and curettage fail, the only other measure we can try is the serum treatment. Every effort should be made to keep up the patient's strength by the administration of concentrated nutritious food in a liquid form, quinine, digitalis, strychnine, and alcohol.

The use of *the curette* in cases of puerperal sepsis is considered inadvisable by E. E. Montgomery,¹ who advocates immediate administration of antitoxin. J. Eastman² protests against the use of the sharp curette. J. T. Priestley³ advocates the employment of the Mundé curette, followed by irrigation with hot sterilized water. H. P. Newman⁴ uses only the finger or dull curette to remove débris, and relies more upon swabbing with iodized phenol than upon irrigation.

Bröse⁵ thinks that *general gonorrheal peritonitis* occurs in women during and after the puerperium, and that it is a special form of peritonitis, differing from others in being much more intense yet having a very favorable prognosis. The diagnosis can be made only by exclusion of all other causes of acute peritonitis and the discovery by the microscope of the existence of a general gonorrheal infection. He advises expectant treatment. Celiotomy should never be performed for ruptured salpingitis if it can be determined that it is gonorrheal. Bröse also opposes laparotomy in general peritonitis of any form, believing that it does more harm than good on account of the violence to which the peritoneum and intestines are exposed.

Gonorrhea in the Puerperium.—A. H. Burr⁶ also believes that many cases of puerperal sepsis are due to previous gonorrheal infection, either active or latent at the time of parturition. He describes five illustrative cases.

Puerperal Fever and Antitoxin formed the subject for discussion at a meeting of the Paris Obstetrical Society.

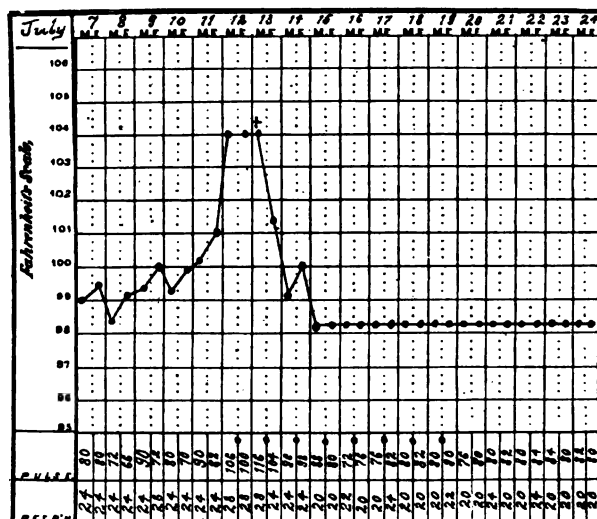
Charpentier⁷ reports thirty-nine cases which were treated locally and with the antitoxin of the streptococcus pyogenes produced by Marmorek, Roger, and Charrin. Twenty-two recovered and seventeen died. In twenty-five cases bacteriological examinations were made. Of these, in sixteen cases the streptococcus was found; in eight streptococci in combination with staphylococci or bacterium coli were present; while the Löffler bacillus existed in one case only. The results were most favorable in the cases in which only the streptococcus existed (nine recoveries in sixteen cases); in mixed infection, four recoveries in eight cases.

Dubrisay⁸ relates a case of puerperal fever treated exclusively with Marmorek's serum. The fever appeared on the third day, and in thirty-two hours pure streptococci cultures were found in the cervix. The patient received in four days four injections of ten cubic centimetres each. Five days after the last injection the lochia were free from streptococci. The temperature declined only on the fourth day after the last injection. An erythema of vulva and left breast appeared twenty-one hours after the first serum injection, and shortly

after the last inoculation an attack of dyspnea came on, to which the patient nearly succumbed.

Bar and Tissier" used the serum of Marmorek in nineteen cases. In three cases no bacteriological examination was made, and three others came under observation when in a moribund condition. Of the remaining sixteen cases nine were cured. Six other cases were treated with Roger's serum; of these four died. These authors say that it is essential to restrict the antitoxin treatment to pure streptococci infection. The antitoxic strength of the serum must also be accurately known.

Boissard" finds the results of the serum therapy absolutely bad.



Dots represent the douches; + shows where the injection was given. (Reddy's case.)

H. L. Reddy" records a case successfully treated by the injection of Marmorek's serum (see chart). Five days after labor bacteriological examination showed streptococci in large numbers, with numerous colonies of staphylococci and streptobacilli. The next day one hundred cubic centimetres of Marmorek's serum, obtained from the horse, were injected into the right side about the middle of the abdomen, the ordinary precautions being observed. For forty-eight hours following the injection there was numbness and tingling of the extremities, but no pain, with the exception of a little at the seat of the inoculation, which was quite free from swelling and redness. No rash was observed. The injection was given at 1:10 P. M. on the 13th of July. Temperature at the time of the injection of the serum, 103 $\frac{1}{4}$ °

pulse 116; two hours later, temperature 104° , pulse 110, full, well sustained. Patient complained of sharp pain on the right side of the abdomen, at the site of the injection, and tingling and numbness in arms, fingers, and feet, which continued forty-eight hours. Urine, twenty-three ounces in amount, normal in character. At 11 P.M. (ten hours later) the temperature had fallen to $101\frac{1}{2}^{\circ}$, pulse 104. After 11 P.M. it fell a degree every two hours until 6 o'clock the following morning, July 14th, when it fell to $99\frac{1}{4}^{\circ}$, and the membrane on both the right and left sides of the vagina and labium had completely disappeared, leaving a raw surface. July 15th: At 2 P.M. temperature rose to 100° , pulse 96. On account of the character of the pulse the patient was given two drachms of brandy every four hours, local treatment being continued. Hematuria appeared, of a severe character. At 8 P.M. the temperature fell to normal, where it remained until the patient left the hospital.

It will be noted that the reaction after the injection was marked by tingling and numbness of the extremities, which continued forty-eight hours; also that within thirty-six hours hematuria appeared as a direct result of the injection (and probably slightly affected the pulse, requiring stimulants to be given), and apparently as the effect of the poultice, as rapidly disappearing. The severity of the action on the kidneys may have been due to one or all of the following causes: the serum was obtained from a horse, was the strongest so far made by Marmorek, and the dose was large.

Tetanus after Abortion is noted by Henry Leaman.* The patient died on the fifteenth day after trismus was first noted. One injection of antitoxin serum was used.

Inversion of the Uterus.—Complete and spontaneous inversion of the uterus at the end of labor is very rare, occurring once in about 190,800 deliveries, according to the records of the Dublin *Rotunda*. John W. Walker** records a case occurring in his practice. He was able to reduce the inversion and the patient recovered.

Rupture of the Uterus in Hydramnion.—H. W. Freund.** A midwife was accused of having produced a uterine rupture. The woman had been in labor twenty-four hours without making good progress; the fetal heart sounds were becoming feeble and indistinct. She thereupon ruptured the membranes (with a knitting needle), and immediately afterward the woman cried out with intense pain, saying that the midwife had injured her. The midwife delayed in calling medical aid for twenty-four hours, but, as labor pains did not appear and the woman was sinking, she sent for a young physician, who found the head at the pelvic outlet, but probably failed at first to correctly diagnose the case. He delivered the dead infant with the forceps, and the placenta, which he said was in the abdominal cavity, was manually removed. In reporting the case to the authorities he accused the midwife of having carelessly caused the rupture of the uterus and the death of the woman. Upon

the stand the doctor admitted that at first he gave a favorable prognosis; he also stated that in removing the placenta he did not encounter any coils of intestines. This was the first case of rupture of the uterus he had seen. In defending the woman, Freund admitted that the midwife was criminally negligent in not calling for medical aid. He maintained, however, that to rupture the membranes in hydramnion was recognized proper procedure to hasten the progress of labor. The rupture of the uterus was spontaneous and due to the sudden diminution in size; such extensive lacerations as existed in this case could not have been caused by a small knitting needle. The doctor's testimony is unreliable, because this was his first experience with a case of ruptured uterus. He failed at first to recognize the gravity of the woman's condition, and did not pronounce the case serious until he applied the forceps. His observation was faulty. Then he testified to having removed the placenta from the abdominal cavity without encountering any intestines. The woman was acquitted.

A Case of Rupture of the Uterus during Labor.—Rein." The accident occurred in a woman 21 years old, who was twice normally delivered. Five hours after beginning of labor pains the membranes ruptured and the cord and right hand prolapsed. An ignorant midwife made traction upon the prolapsed cord, whereupon the woman complained of severe pain and became unconscious. The woman was then transferred to the clinic and laparotomy performed three hours later. Fetus, placenta, and large masses of blood were in the abdomen. An extensive laceration of the anterior wall, extending into the left broad ligament and vagina, was found. The uterus was removed, the stump treated extraperitoneally. Recovery.

Ruptura Uteri Subgraviditata.—Petkewitsch." A Iipara, æt. 20, had after her first confinement seven post-partum hemorrhages, also bleeding in the third month of the present pregnancy. In the seventh month she sustained a trivial trauma of the abdomen, which, however, caused severe pain in the left side of the abdomen and was accompanied by vomiting, vertigo, and dyspnea. An examination showed an anemic woman with a small pulse of 140 and normal temperature. The abdomen was very sensitive, but not tympanitic. In the region of the umbilicus a fetal part could plainly be felt. Fetal heart sounds and motion absent. Rest was ordered, and the next day her condition had much improved, pulse 101. During the night there occurred suddenly a violent uterine contraction, and she died three and a half hours later with the symptoms of the previous day intensified. At a post-mortem an extensive rent was found at the posterior superior surface of the uterus, from which the breech protruded. A microscopical examination of the uterine wall in the region of the tear showed excessive connective-tissue fibres and a corresponding absence of muscle cells and blood vessels. The rest of the uterine wall was normal. The author believes that the portion of the uterus which ruptured was the seat of chronic interstitial endometritis causing an

atrophic condition, so that only a trivial traumatism sufficed to effect its rupture.

Symphiseotomy.—A case is reported by G. M. Boyd " in a woman who had had five instrumental labors resulting in three living and two dead children. At the time for the sixth delivery the head remained above the brim after seventeen hours of active labor. Symphiseotomy was done and a live child easily delivered. Recovery was uneventful, and patient left the hospital well at end of fifth week. Is still perfectly well at end of a year. The true conjugate measured 8.25 centimetres.

Cesarean Section.—I. P. Allred " records a successful operation under extreme difficulties. Lonely log-cabin; 2 A.M.; only light small lamp, no chimney; neglected shoulder presentation; woman apparently moribund; could not deliver; made Cesarean operation; patient's sister for assistant; no hemorrhage; five silk stitches in uterus, ten in abdominal wound; bichloride and absorbent cotton dressing; rapid recovery.

Porro-Cesarean section. A case is reported by G. M. Boyd." Patient recovered. True conjugate measured 6.5 centimetres.

Cesarean section and total hysterectomy for sarcoma was done by Vineberg." Patient recovered. Child lived twelve hours.

Cesarean section. Tóth." Two cases occurred at Prof. Tauffer's clinic in Budapest, and were reported by Tóth at a meeting of the Hungarian Medical Society. Case 1 was a primipara, æt. 34, who was in labor six days; the membranes had ruptured two and a half days before admission, and rupture of the uterus was imminent. The pelvic outlet was obstructed by a hard tumor about the size of a fetal head, which was found to be a fibroma of the cervix extending between the folds of the broad ligament. Neither uterus nor tumor was removed, but the woman was castrated. The hemorrhage was trifling. A living child was secured, and the mother recovered, although reconvalescence was interrupted by an endometritis and a hypostatic pneumonia. The tumor decreased in size.

In the second case the indication for the *sectio Cesarea* formed a tumor extending from the right ramus of the pubes to the iliac fossa of the same side. The tumor, the size of a double fist, was absolutely immovable, and probably consisted of a chondroma or chondrosarcoma. On account of the high upward extension of the bladder and the tumor at the fundus, the uterus had to be opened at the posterior wall. A living child was secured. Both Fallopian tubes were ligated, and the uterine united by silk sutures. The patient made a slow but successful recovery, and left the hospital, in perfect health, ninety-six days post partum.

GYNECOLOGY AND ABDOMINAL SURGERY.

Acute Abdominal Pain in its various phases is discussed in an able paper by Byron Robinson."

Abdominal Sections.—Twenty-nine cases for disease of ovaries or tubes, with three deaths, are reported from the

Royal Infirmary, Newcastle-on-Tyne." Fifty cases of abdominal surgery occurring in the Boston City Hospital during the summer of 1895 are reported by F. S. Watson," with an operative mortality of eighteen per cent. W. O. Henry" reports thirty abdominal sections, and concludes as a result of this experience that pus tubes should be thoroughly drained through the vagina when practicable, and then removed by abdominal section at the same or a subsequent sitting. Tubercular peritonitis may be relieved and the tubercles made to disappear by simple celiotomy without drainage. He urges the performance of abdominal section in any case, however severe, if it is the only hope for the patient, rather than refusal of an operation because it appears hopeless.

Hysterectomy.—Two successful cases by the abdominal method are reported by F. H. Martin." Eight cases, all recovering, are reported by A. E. Rackey," done by the Péan method. Wiggin" records eight cases with seven recoveries—two by the combined method, two abdominal, and four vaginal. His technique of the vaginal operation is as follows: The patient is anesthetized and is placed in the lithotomy position, the thighs being held in place by means of a Clover crutch. After catheterism the external genitals and vagina are once more scrubbed, and the vagina is douched with a bichloride solution. The exposed portions of the patient's body not in the field of operation are covered with sterilized towels. The perineum is retracted by means of a Simon retractor, and the cervix is seized by a bullet forceps and drawn downward. A double uterine catheter is passed into the uterine cavity and the latter washed out with a bichloride solution. The cervical canal is next cauterized with the Paquelin cautery, and is closed by sutures passed through the lips of the os. The parts are finally irrigated with bichloride and saline solutions.

The cervix is next drawn forward and upward, and the forceps held by an assistant while an incision is made around the cervix, through the vaginal wall, and then with a pair of blunt scissors, curved on the flat, the tissues are divided posteriorly until Douglas' pouch is reached. This is opened, first by an incision, and then by opening wide the blades of the scissors, divulsing the tissues. A needle, armed with silk, is now passed through the peritoneum and the posterior vaginal wall in one or two places, and this is tied so as to prevent the slipping away of the peritoneum. The cervix is next drawn downward and forward as far as possible, and the anterior vaginal wall is picked up with another bullet forceps, about a third of an inch below the meatus urinarius, and an incision is made with a scalpel through the anterior vaginal wall, beginning at this point and continuing to the cervix. The flaps are dissected laterally as far as possible, in order that sufficient room for manipulation may be had. Needles armed with heavy silk are passed through either flap, the silk tied, and the ends, which are left long, are held by assistants, thus retracting the tissues. A sound is introduced at this juncture into the blad-

der, with the curved beak turned outward, which procedure sharply defines its lower border and the union with the cervix. Below this latter point a curved transverse incision is made with a scalpel, and the bladder is separated from the uterus by blunt dissection with the fingers. This diminishes the chance of injury to the vesical wall, and, as the ureters are pushed up out of the way, there is practically little danger of their being included in the ligature which is passed about the uterine artery of either side. The vesico-uterine fold of peritoneum is next drawn down and incised with scissors. The pelvis is now elevated somewhat, and the bladder and intestines are seen to fall away from the vaginal wall and uterus. The pelvic cavity can now be explored by sight as well as by touch. A needle, armed with heavy silk, is passed as near the fundus of the uterus as possible and the organ drawn forward. There is usually little difficulty in extracting the fundus and bringing into view the broad ligaments and the adnexa. The ligaments are folded over upon themselves. A curved needle, armed with heavy silk, should be passed through this folded broad ligament on either side, and the ends left long, so that in case of hemorrhage after the tissues are divided and retracted they may again be brought into view. The ovarian artery can be felt, and is best ligated by passing a curved needle, armed with catgut, directly around it, as little tissue being included as possible. The ligature is tied and its ends are cut off short. The round ligament is also tied in a similar manner before division. The ovarian vessels and round ligaments on both sides having been ligated and divided, the fundus is released, and the uterine vessels are secured as closely as possible to the uterus. The remaining tissues are divided and the uterus and adnexa removed.

The vaginal wound is closed, but not until the vaginal wall on either side has been attached to the stumps of the broad ligaments. After irrigation the vagina is loosely packed with iodoform gauze.

In discussing hysterectomy as an accompaniment to bilateral removal of the appendages, R. Peterson¹³ says that hysterectomy should never be performed except when actually demanded for the cure of the patient. When the uterus is tubercular it should always be removed because of the difficulty of curing it by intrauterine treatment.

Vaginal versus Abdominal Route.—A. H. Cordier¹⁴ argues in favor of the vaginal route in the treatment of inflammatory diseases of the pelvis.

After a careful investigation of the literature, Mironoff¹⁵ concludes that, whenever possible, operations for uterine displacements, myomata, or diseased adnexa should be performed per vaginam.

H. Fehling¹⁶ does not agree with the recommendation of Bumm to remove small or medium-sized ovarian tumors by anterior colpotomy. Bumm reports five cases with two failures. To these Fehling adds seven new cases, in two of which he was unable to finish the operation per vaginam and had to

resort to laparatomy. Thus, he says, here are twelve cases with four failures, or thirty-three per cent. The disadvantages of the vaginal route are the inability to make a correct diagnosis and the difficulty to stop hemorrhage.

Intestinal Obstruction after Vaginal Hysterectomy.—Several free movements of the bowels occurred on the fourth day after a vaginal hysterectomy by the clamp method by J. A. Price, but none after the seventh. By reopening the vaginal incision a loop of collapsed gut was found. As it could not be traced to the point of obstruction, a lateral anastomosis was effected by means of a Murphy button, working through the vagina. A fecal fistula from a small rent made above the button soon began to close, and defecation now occurs by the natural route.

Tears of the Rectum in abdominal operations for pyosalpinx, according to Snger (Robb"), should not be allowed to communicate with the vagina. With such a communication there always exists a possibility of infection of the connective tissue of the pelvis. One or other of the three methods following seems to promise the best results :

1. Direct suture, with the after-employment of the Mikulicz drain.

2. Direct suture and "partition formation," with drainage of the space which has been walled off. This method is most applicable in those cases in which the diaphragm formation is easy and we are not hurried and the diaphragm can be made without loopholes.

3. Kelly's method. Where the circumstances admit this is the ideal method.

Blennorrhagia.—A review of the literature bearing upon the bacteriological study of blennorrhagia is presented by M. Se."

Increased Frequency of Cancer.—Roger Williams," well known as an authority on this subject, says :

The proportionate cancer mortality now is more than four times greater than it used to be half a century ago. In this respect its position is unique, for no other disease can show anything like such an immense increase.

The following table shows at a glance the full extent of the mischief and its steadily progressive nature :

Year.	Total population (England).	Total deaths.	Cancer deaths.	Cancer death rate per million living.	Proportion to population.	Proportion to total deaths.
1840	15,730,813	359,687	2,786	177	1 to 5,646	1 to 129
1850	17,773,324	368,995	4,966	279	1 to 3,579	1 to 74
1860	19,902,713	422,721	6,827	343	1 to 2,915	1 to 62
1870	22,501,316	515,329	9,580	424	1 to 2,361	1 to 54
1880	25,714,288	528,624	13,210	502	1 to 1,946	1 to 40
1890	28,762,287	562,248	19,433	676	1 to 1,480	1 to 29
1891	29,081,047	587,925	20,117	692	1 to 1,445	1 to 29
1892	29,405,054	559,684	20,353	690	1 to 1,445	1 to 27
1893	29,781,100	569,958	21,135	711	1 to 1,407	1 to 27
1894	30,060,763	498,827	21,422	713	1 to 1,403	1 to 23

The state of affairs thus revealed is of grave import, especially as in all civilized countries a similar tendency is noticeable. It is certain that, if unchecked, cancer will ere long become one of the commonest diseases of modern communities. Even now cancer causes more than four times as many deaths as typhoid fever; but while medical officers of health devote so much attention in their reports to the latter disease, which is decreasing, they hardly ever even allude to the former, and I believe they consider cancer outside their sphere. It is necessary to speak plainly on this subject, because the bulk of the profession and the general public, owing to the prevailing indifference, have but a very inadequate idea of its importance. It is high time that this neglect should cease. The subject is one that requires thorough investigation on a larger scale than can be undertaken by any individual. It is a matter of national concern.

In this connection I must direct attention to the remarkable decline in the death rate from phthisis and other tubercular diseases that has coincided with this great increase in the cancer mortality; for while the latter has more than quadrupled during the last fifty years, the former has diminished by more than one-half. The latest ascertained cancer death rate is the highest on record, while that for tubercle is the lowest.

Probably no single factor is more potent in determining the outbreak of cancer, in the predisposed, than high feeding. There can be no doubt that the greed for food manifested by modern communities is altogether out of proportion to their present requirements. Many indications point to the gluttonous consumption of meat, which is such a characteristic feature of the age, as likely to be especially harmful in this respect. Statistics show that the consumption of meat has for many years been increasing by leaps and bounds, and it has now reached the amazing total of one hundred and twenty-six pounds per head per year, which is more than double what it was half a century ago, when the conditions of life were more consonant with high feeding.

When excessive quantities of such highly stimulating forms of nutriment are ingested by persons whose cellular metabolism is defective, it seems probable that there may thus be excited, in those parts of the body where vital processes are still active, such excessive and disorderly cellular proliferation as may eventuate in cancer.

No doubt other factors co-operate, and among these I should be especially inclined to name deficient exercise in the open air.

Carcinoma Uteri.—In urging the necessity for *early examination and diagnosis* where there may be a suspicion of malignancy, W. B. Chase" says: It is a singular fact that women with carcinoma are found somewhat frequently to have increased sexual desire. The slight bleeding incident to digital examination should excite suspicion and the cause determined, whether due to some form of erosion so frequently present on the cervix, whether the result of laceration and

eversion so common in women who have borne children, or to graver causes. If the cervix is the seat of malignant disease, sight and touch will greatly aid in differentiation. In the early stage there is usually increase, perhaps slight, but appreciable, of the new structure, with a tendency to invade contiguous tissue. The first change observable is enlargement and hardness of red nodules, which bleed easily and break down on touch as the disease progresses, the tendency to disintegration increases and is attended with sero-purulent discharge and blood. The hard rim of the excavation, the crater-like depression, its tendency to bleed, are the unmistakable evidences of cancer. If these appearances are not already present in a degree sufficient to warrant an opinion, the case should be carefully watched and gentle treatment applied to see whether the diseased surfaces heal. If of benign origin, the erosion or ulcer is likely to heal; if malignant, healing will not follow. The form of erosion in cancer of the cervix differs from follicular erosion, the edges being indurated and elevated. The papillary projections in cancer break down, when scraped with the finger nail, much more readily than the benign variety. Another distinction to be made between cancer and cervical endometritis, in its clinical history, is that in cancer the discharge has lost its mucous consistence. When the disease originates in the cervical mucosa or in the deeper cervical structures, the symmetrical or asymmetrical condition of the portio vaginalis should be closely observed. In the squamous-celled variety of cervical carcinoma the posterior lip is the point most frequently attacked.

Newman Dorland,² in discussing the early diagnosis of uterine cancer, says: Given a case of suspected malignant disease of the cervix uteri, what are the features upon which may be based a presumptive diagnosis of incipient carcinoma? They are not many, but to an experienced eye and a close observer they are strongly suggestive. They will vary according as to whether the disease originate in the portio vaginalis or in the cervical canal, and as to whether it appear in the nodular form or as a mere superficial erosion of the surface. A very noteworthy feature in the nodular variety is the peculiar angry appearance of the elevated area, which, while it may be differing but slightly in color from the adjacent healthy mucosa, bleeds freely upon the slightest touch and is dense and resilient to the feel. Herman considers a smooth, dark-red spot upon the cervix, bleeding upon contact, as a very suspicious symptom indicative of the earliest stage of carcinoma. the suspicion being stronger should a nodule be felt. The most characteristic feature of the hemorrhage is that it follows a trivial local irritation; thus, it is very common after coitus, or it may be profuse after even the most careful introduction of the speculum in a gynecologic examination. This tendency to hemorrhage is very suggestive.

It is not at all uncommon for the two conditions, granular erosion of the cervix and early carcinoma, to be confounded.

In both of these conditions the hemorrhage may occur with almost equal readiness on the slightest manipulation, but the malignant disease is characterized by a peculiar elevation and induration of the periphery of the affected area, which is very striking, and which prevents the ready displacement of the mucosa upon the subjacent tissues, while the cancerous tissue within is exceedingly friable, cutting out easily. This is such a characteristic feature of malignancy that Sinclair regards it as a clinical sign of exceptional value. He states that if the suspected area be exposed through a speculum and scraped with a sharp spoon curette, it will simply bleed, or at most yield small shreds of tissue, if non-malignant; while, if cancerous, the soft, cheesy nature of the diseased tissue will be readily recognized. The microscope will confirm the suspicion, but it must be remembered that an examination of the scrapings of the curette will not suffice. It is only when the subjacent tissue is involved in the process that an accurate diagnosis of carcinoma can be made, and this can be determined only by excising a portion of the deeply-lying tissues, either with or without cocaine, being careful to include the margin of the healthy as well as a portion of the affected tissue. A microscopic examination of the removed tissue can then be made with a reasonable expectation of arriving at a positive knowledge of the condition. Should malignancy be discovered an immediate extirpation is demanded, since this removal of a section is in reality a partial operation, and exposes the patient to the risk of a rapid spread of the disease to remote parts through the agency of the opened veins and lymphatics.

Other clinical manifestations of undoubted value in the early recognition of this disease are the characteristic sacral pain—a very common symptom—and the offensive and acrid leucorrhea, which may indeed be the primary manifestation of the disease, present long before any more positive changes may be noted.

Beyea," in concluding a paper on *Carcinoma of the uterine body*, says: It is my opinion that carcinoma of the corpus uteri occurs much more frequently than statistics show, and that at least ten per cent of the cases originate in the utricular glands. This is probably due to the fact that the diagnosis is more difficult than in carcinoma of the cervix, few microscopical examinations have been made, or the patients are seen when the disease is far advanced and it is impossible to determine where it began.

In conclusion I wish again to emphasize the importance of making a diagnosis early—early recognizing suspicious symptoms, then insisting upon vaginal examination, etherization, thorough and systematic curettement, microscopical examination of all tissue removed; and if from a competent pathologist a positive report of the presence of alveolar carcinoma, adeno-carcinoma, malignant adenoma, or perhaps benign adenoma is gained, insist upon the operation of abdominal total hysterectomy as soon as possible. When the pathologist's

report is not positive, and when fungoid endometritis or mucous polypi are found and the symptoms continue, repeat the curettement at intervals until malignant disease is found or excluded, or possibly, when the symptoms become more exaggerated and physical examination shows progress of the disease, operate without further warrant.

Palliative treatment of carcinoma of the cervix uteri. Klotz " advises against hysterectomy if the uterus is not perfectly mobile, and prefers the active cauterization with the Paquelin cautery to all other palliative methods. He applies the actual cautery five or six times of about fifteen minutes' duration and at ten-day intervals. After four months the funnel-shaped wound is completely cicatrized, bleeding and discharge cease entirely, and the patients are so much improved that they consider themselves cured. He used this method of treatment in six non-operable cases, and recurrence has apparently not taken place in four, four, three, two, one, one-half years respectively.

Leopold " says that cancer of the cervix behaves like carcinoma mammae and invades the neighboring tissues at an early date; for this reason he does not expect very much from the treatment of the visible portion of the growth by the actual cautery. He extirpates the cancerous uterus in cases where the organ is movable; in all other cases he employs and advises the following palliative treatment: The cancerous growth is thoroughly removed by the sharp spoon; the resulting raw surface is treated with the actual cautery. After one to two months pure carbolic acid is applied to the wound, which treatment is repeated at intervals of three months.

Schramm " reports his experience with parenchymatous injections of alcohol, sublimate, and methyl violet in the treatment of inoperable cancer of the uterus. He advises against the use of alcohol on account of the severe pain caused. Sublimate has a good disinfecting action; it decreases the discharge and bleeding becomes less frequent. Methyl violet has a strong indurating power, which can especially be noticed in soft cancerous growths; the discharge and bleeding are also favorably influenced. In two cases injections of methyl violet were followed by uncontrollable vomiting, which he ascribes to intoxication by the drug.

Brosin " believes that cancer of the cervix can be cured if extirpation is performed before the disease invades the neighboring organs, but if this has taken place no method can prevent recurrence. It is immaterial what means are used to destroy the diseased tissues, and operators will have best results with that method in which they have the greatest experience. He endeavors, like Sanger, to remove the new growth as thoroughly as possible with the Paquelin cautery. He has injured the bladder several times, but through sutures always obtained primary union. The patients sooner or later die from recurrence in other parts of the body, although the original wound may remain closed. The endometrium which cannot be

reached by the actual cautery is destroyed by steam; for this he uses the boiler of an inhalation machine, a wooden speculum, and a Fritsch uterine catheter.

Deciduoma Malignum.—Leopold " reported at a meeting of the Dresden Medical Society, June, 1896, the following most interesting case: The patient was brought to his clinic late at night in a condition of extreme anemia. Pulse 160, feeble, extremities and face pale and cold. The uterus was pushed toward the right side and enlarged; a doughy mass could be felt behind the organ. The history showed that menses had been regular until she was delivered, June 25th, 1895. The puerperium was apparently normal. The menses reappeared three months later and from that time on she flowed irregularly every two weeks. Lately she had suffered much, and she entered the hospital two weeks before admission to Leopold's clinic. Shortly before the operation she complained of severe abdominal pain, rapidly followed by the symptoms described above. After opening the abdomen about two litres of dark fluid blood escaped. Both tubes were normal, but the anterior wall of the fundus uteri showed six to eight dark-bluish protuberances, one of which had ruptured and was the source of the hemorrhage. An elastic ligature was placed around the cervix, which arrested further bleeding; after this the uterus was removed. The condition of the woman during and after the operation was very bad, but infusions of normal saline solution caused a marked improvement, and at the time of this report (day following laparotomy) she was doing well. After opening the uterus it was found to contain a soft mass which had grown into and penetrated the muscularis. The diagnosis made was deciduoma malignum, but this must yet be confirmed by a microscopical examination.

Vesical Affections.—Edgar Garceau " gives facts showing the value and necessity of the careful examination of the bladder and ureters when there are symptoms, "reflex" or other, which point to vesical trouble.

Foreign Bodies in the Female Bladder.—Pletzer " was called to a puerpera, eight days post partum, whose bladder contained a piece of a glass female catheter. The attending physician catheterized the woman during the second stage of labor, and while the catheter was still in the bladder the patient moved, which caused the breaking of the catheter. A large piece slipped into the bladder and was left there, while a small splinter was seen in the urethra and removed immediately. The piece of glass had at first caused no inconvenience, but now the woman began to complain of pain at urination. The piece of catheter could be felt through the anterior fornix vaginae. The urethra was dilated sufficiently to admit the index finger, which was then introduced into the bladder. Through manipulation of an index finger in the bladder and vagina the catheter was made to enter the internal meatus, with the unbroken end foremost, when it easily escaped from the urethra. No bad after-effects.

Inversion of the Female Bladder.—Prolapse of the female bladder is very rare, and Kleinwächter¹² found in the literature only eighteen cases, to which he adds a new observation. The patient was a female child, æt. 8 weeks, upon whom during the last eighteen hours a sacculated tumor was noticed, situated between the thighs, the size of a cherry, dark blue in color, easily bleeding, with a velvety surface, and having a urinous odor. Kleinwächter replaced the prolapsed bladder and tamponed the vagina with iodoform gauze. The child died six days later from causes unknown.

Prolapse of the bladder may be partial or total. The etiology is not known; laxity of the bladder walls and its ligaments is probably a predisposing cause. Of the nineteen cases reported, ten occurred in infants, while nine were adults. The treatment consists in manual reposition, which is generally possible, and the bladder is kept in position by a vaginal tampon, for which in adults a pessary may later be substituted. The lumen of the urethra may be decreased by cauterization. In fifteen cases more complete reports can be found; of these eleven cases were cured and four died.

Schäffer¹³ observed congenital prolapse of the rectal mucous membrane and the formation of diverticula, caused by the hypertrophy of the mucous membrane, in two macerated fetuses. A sound which was introduced per anum entered the diverticulum. These cases show that diverticula of the rectum can be congenital, and that those found in adults may sometimes be of congenital origin.

Ovary.—H. M. Jones¹⁴ presents notes of several oöphorectomies. The first, for ovarian cyst with extensive adhesions and twisted pedicle, was followed by recovery. In a second case the operation was performed for persistent oöphoralgia. The ovaries were cystic and the Fallopian tubes possessed irregular ostia. A third operation was for ovarian hematoma. The other ovary was atrophic but was not removed, and the patient was delivered of a living child three years later. Another oöphorectomy was done for profuse menorrhagia due to an incarcerated uterine fibroid. One ovary was so bound down by adhesions that its removal was not attempted. Menstruation continues, but is greatly diminished. Jones also reports the successful removal of an ovarian fibroma from a patient 22 years of age.

A hematoma of the ovary and broad ligament, closely simulating in its history an acute appendicitis, is recorded by A. B. Johnson.¹⁵ The broad ligament had undergone one complete twist. Removal of the tube and ovary, with gauze abdominal drainage, was followed by recovery.

Successful secondary celiotomy for hemorrhage twelve hours after operation for removal of densely adherent tubes is recorded by P. W. Leitzell.¹⁶ The patient showed slowly increasing shock; the abdomen was reopened, oozing found and checked by clamps over broad ligaments, and abdomen flooded with warm salt solution. Patient began to react at once.

Clamps removed after twenty-four and thirty-six hours. Recovery slow.

An elaborate description of the technique of abdominal salpingo-oophorectomy without pedicle is given by T. J. Watkins. "The operation was more briefly described in the number of this JOURNAL for August, 1895. He says that in closing the wound the muscles should not be sutured, as the union obtained in this way is unnatural, has no material strength, and must interfere with their action. Suturing of the muscles also increases the pain of the wound.

The Condition of the Uterine Mucous Membrane after Castration.—Eckardt. "The mucous membrane of the uterus atrophied after castration undergoes the same regressive changes as are found in the senile uterus. These are the disappearance of the cilia of the ciliated surface epithelium; this and the interglandular cells diminish in size. The utricular glands disappear in part, and in part change into cysts.

The Influence of the Removal of one Ovary upon the Sex of the Ovum.—Based upon experiments and a misinterpreted quotation of Hippocrates, Seligson of Moscow has claimed that the right ovary only contained male ova, while the left ovary was restricted in its function to the propagation of the female sex. (If Seligson's hypothesis is correct, then the apparent superabundance of the female sex can easily be remedied by the wholesale removal of the left ovary.) Gönner "investigated the journals of the Basel Pathological Institute, which show conclusively that Seligson's theory is absolutely baseless. The author also experimented upon rabbits, and found that sex was not restricted to one or the other ovary.

Endocarditis following Pyosalpinx.—Deguy "gives the history of a case of infectious endocarditis secondary to pyosalpinx.

Lymphatic Cyst in the Broad Ligament.—Lion "describes a case of lymphatic cyst of the broad ligament in a child 3½ years old, which had existed for one and a half years. The cyst contents are important for differential diagnosis from ovarian cysts; pseudomucin is absent, but albumin is present in large quantity and the specific gravity is high. The most frequent origin of lymphatic cysts are the small lymph vessels; their endothelium, owing to chronic inflammatory irritation, rapidly proliferates and dilates the calibre of the vessel, then desquamation takes place, the lumen of the vessel in part becomes obstructed, and in part changes into cysts.

Dermoid Cyst of the Broad Ligament.—Rendu "records the successful removal from a woman of 42 of a dermoid cyst of the broad ligament.

Intrauterine Medication.—W. S. Playfair, "after discussing various methods of intrauterine treatment for diseases of the endometrium (excluding fibromata), in which he speaks favorably of applications of phenol and glycerin and the curette, says: "My own decided preference as a means of intrauterine medication is for the application of the negative electric current

after the plan introduced by Apostoli. The precise method of its action is doubtful, but it appears to modify the nutrition of the endometrium and its deep-seated glands in a very remarkable manner. I have rarely used more than five or six applications—generally three after one period and two after another—these consisting of from eighty to one hundred milampères of the negative current. This is practically painless, nor have I seen a single case in which any subsequent mischief resulted. The efficiency of this method of intrauterine medication is best proved by the frequency with which it is followed by pregnancy in old-standing cases of acquired sterility." He then goes on to speak of its drawbacks, the costly and elaborate plant required, and the time and skill necessary during the treatment. These difficulties make it quite intelligible to him why it has not been more generally used.

Prevention of Suppuration in Acute Pelvic Inflammations.—Pryor "says curettage helps all these cases somewhat, but so many failures to afford entire relief result where curettage alone is employed that more must be done. For two years, in all such cases, he has operated as follows: The uterus is thoroughly curetted and irrigated. All instruments being changed, in a few minutes the cul-de-sac is opened and a wide blunt dissection made in the vagina and cul-de sac by separating two fingers. The fimbriated ends of the tubes are opened if found closed. All serous fluid accumulations are evacuated and the pelvis wiped dry. No irrigation is here used. Then pack from three to five yards of iodoform gauze into the pelvis, each strip being about three inches wide. The uterus is next tightly packed, as is also the vagina. A self-retaining catheter is introduced. On the third day the vaginal gauze is removed, together with that in the uterus. The vaginal gauze is renewed, but the uterine packing is not, unless the uterus be large. The gauze in the pelvis comes out in a week or ten days under chloroform and another large pelvic packing is made. The results of this operation are most gratifying. The lymph which is thrown about the antiseptic dressing disappears in a few months and the uterus becomes perfectly movable. Accidents have never happened to him, and he has so far been uniformly successful in preventing suppuration.

Shortening of the Broad Ligaments per vaginam for the Cure of Uterine Displacements.—Kocks." This operative method, although described by the author in 1892, did not become public. Kocks terms as *ligamenta cardinalia* the strong bundles of fibres which extend from the side of the pelvis to the portio; these support the uterus and also form the axis around which it moves. In prolapse these bands become lax, which condition is remedied by their shortening. The operation consists in detaching the bladder from the vagina up to the peritoneal covering above and on either side in front of the broad ligaments, with which ligaments parts of the bladder are connected. The next step consists in shortening the broad ligaments by suturing them together and to the anterior ute-

rine wall. The union between bladder and vagina is then re-established. Three successful cases are reported, one of which became pregnant two years later and passed through a normal pregnancy and labor. The operation is claimed to avoid the unpleasant complications following vaginofixation.

Uterine Fibroids.—The degenerative changes which may occur in uterine fibromyomata are described by A. P. Clarke.* Among these changes he includes those of a malignant character. W. G. Macdonald* says that there is no tumor of the uterus, fibrous or fibrocystic, which is malignant. If a tumor develops from the pedicle of another previously removed, the latter, even though presenting all the macroscopic and microscopic features of fibroid, was a sarcoma at the time of its removal.

Six cases of abdominal hysterectomy for fibroids are reported from the Royal Infirmary at Newcastle-on-Tyne," with four deaths.

In removing fibromata accessible from the vagina, *morcellation* is usually facilitated by deep lateral incisions through the cervix. E. C. Dudley** proposes a possible improvement upon the two lateral incisions. It is a simple median incision through the anterior wall of the uterus, as follows: 1. Make a semi-circular incision in front of the uterus which shall separate the vaginal wall from the cervix at the utero-vaginal attachment. 2. Incise the anterior vaginal wall from the point at the middle of the first incision for a distance of one-half to three-fourths of an inch, taking care not to invade the bladder and to avoid the ureters on either side. 3. Separate the bladder from the uterus by means of the finger or some other blunt instrument, keeping close to the uterus until the peritoneum is reached but not divided. Then expose with retractors the anterior wall of the uterus. 4. Divide the anterior wall of the uterus longitudinally in the median line, by means of scissors, to whatever extent may be necessary to render the tumor accessible. If necessary the peritoneum may be opened and the incision carried high up into the corpus uteri. This simple anterior incision would permit wide separation of the lateral fragments of the anterior uterine wall and thereby expose the endometrium, and in selected cases would render accessible a myoma in any part of the uterine wall. It would probably have the following advantages over the lateral incisions: (1) Less traumatism—one incision instead of two. (2) The parametria are not opened and exposed to possible sepsis. (3) The tumor would be more accessible, because the anterior uterine wall would be out of the way instead of being between the operator and his field of operation. (4) A much longer incision may be made, if necessary, because the broad ligaments are not involved. (5) Less hemorrhage. (6) The pelvic cavity may be easily reached for any accessory operation on the uterine appendages or peritoneum. Even a small pedunculated or subperitoneal tumor could be removed.

Menstruation.—H. M. Jones** describes a case of intense

vasomotor coloration of the face associated with dysmenorrhea and oöphoralgia. The ecchymosis of the cheek resembled at times that due to a severe contusion. The discoloration was chiefly below the eyes and in the malar region, but occasionally involved the forehead. G. W. Irion¹ records a case under his own observation where a child had menstruated regularly since birth, 10 months ago.

Nephrectomy for Tuberculosis and perinephritic abscess was performed by Charles P. Noble,² the patient recovering with a sinus probably due to tubercular infection of the perirenal tissues. A careful examination indicates that the patient has escaped tubercular disease of the other organs, and that she had a case of primary tuberculosis of the kidney. Noble believes it unfortunate that the operation was not done earlier, as undoubtedly the entire lumbar region had become infected through the perinephritic abscess, and there is good reason to fear that eventually this patient will die from tuberculosis. The history of this case is a warning against delay in the radical treatment of tuberculosis of the kidney when the opposite kidney is healthy and the system in general is free from infection. Under such circumstances a nephrectomy is a very simple operation and one having a very small risk. Lumbar nephrectomy can be performed upon kidneys of moderate size without opening the peritoneal cavity, and with a minimum risk.

Nephrotomy for Pyelonephrosis is reported by Frank W. Talley.³ The patient, who had had a chronic cystitis, developed a renal abscess after labor. Palpation showed a large, oval, tender tumor projecting into the abdominal cavity in the left lumbar and hypochondriac regions. The kidney was incised through a lumbar incision, flushed out, a rubber drainage tube introduced, and the wound closed with deep sutures. Patient left the hospital on the twenty-seventh day, pale and anemic, and with a fistula in loin discharging urine. Incision and drainage is the only proper treatment for acute abscess of the kidney, whether of the pelvis or parenchyma, and for pyonephrosis resulting from injury or primary tuberculosis, if that be diagnosed sufficiently early. In advanced cases of pyonephrosis, however, nothing short of nephrectomy should be considered, unless the patient be too greatly reduced, as in this case, to admit of any prolongation of the operation. Primary incision is objectionable on account of the prolonged and exhausting suppuration which follows, of the infection of the tissues of the loin from the purulent discharges, and of the complication of the subsequent nephrectomy by adhesions and the fistula. In the debilitated condition in which this patient was at the time of operation a more formidable operation than that of free incision was not to be entertained. This unfortunate case should impress the fact of the criminality of negligence in catheterizing women without previous cleansing of the parts surrounding the urinary meatus and the rigid asepticism of the catheter.

Richard C. Norris⁴ reports a case of pyelitis treated successfully by the lumbar incision and drainage.

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DISEASES OF CHILDREN.

Abscess, Congestive.—Ch. Rémy¹ reports the case of a boy 10 years old who was apparently in a moribund condition. An abscess of the right thigh was found, due probably to psoriasis. A diagnosis was made of congestive abscess. The pelvis was the seat of a protruding puffiness; the abdomen was swollen and tense. There was a history of Pott's disease, apparently cured some years previously. For three days the child had been ill; he coughed occasionally and expectorated a clear, viscid fluid streaked with pus. Lungs and pleura were normal. The abscess was opened and discharged a large amount of fetid pus. The abscess cavity was washed. During the process the patient became cyanosed, and during an attack of coughing a quantity of liquid poured out of his mouth. It was evident that the abscess had perforated the bronchus and that the injected fluid had travelled along the path through which the pus had previously made its way to the mouth. The results of the operation were good.

Abscess of Retzius' Cavity from Appendicitis.—F. Brun² reports and describes a case.

Acute Yellow Atrophy of the Liver.—Friedrich Lanz³ describes a case of this malady in a boy 4 years of age.

Alcohol.—Emmerich⁴ writes upon "Abuse of Alcohol in Childhood."

Arsenical Paralysis in a Child of Seven Years.—J. Comby⁵ reports the case of a little girl who was treated for chorea by large doses of arsenic (three and a half grains in eleven days). The chorea was rapidly cured, and at first she merely had a little gastric disturbance. Six weeks later, however, paralysis gradually affected her legs, trunk, and arms; paraplegia was complete, and for ten days was accompanied by incontinence of

urine and feces. Cutaneous sensibility remained, reflexes were abolished, faradic reaction was negative; there was no appreciable muscular atrophy, and there were no trophic disturbances. The paralysis gradually disappeared and at the end of six weeks had completely vanished.

Barlow's Disease.—Edmund Meyer⁴ discusses Barlow's disease and quotes four cases occurring in infants of from 5 to 7 months. The disease attacks markedly anemic, rachitical children and is characterized by subperiosteal and visceral hemorrhages, Barlow laying special stress upon the former. As regards the etiology of this peculiar affection, Bosse judges that feeding plays an important rôle in the four cases quoted by him. Rieth's albumose milk had been used exclusively up to the time of the occurrence of the disease.

Chorea treated by Arsenic.—J. Comby⁵ considers arsenic to be the best and most rapid treatment of chorea known. It must be administered in strong, progressively increasing doses, beginning with one-sixth of a grain a day, adding one-twelfth grain a day until one-half or two-thirds of a grain are reached. The doses are then gradually diminished until one-sixth of a grain is again reached, and then the treatment is stopped. The arsenic must be greatly diluted, in order that it may cause no gastric disturbance. Boudin's solution (1:1000) should be given, and each daily dose of it diluted in a julep of one hundred and twenty to one hundred and thirty grammes. Rest in bed must be prescribed and a milk diet. A cure will, as a rule, follow in eight days.

Codeine as an Adjuvant in the Dilatation of the Glottis in Croup.—G. Variot⁶ thinks that as dilatation of the glottis by means of a tube gives only temporary relief of the spasm, it is well to administer codeine or some other nerve sedative after its removal, to prevent return of the spasm. He reports a case successfully treated in this manner.

Congenital Deficiency of the Diaphysis of the Femur.—Under this title Lange⁷ states that nothing is known as to the etiology of this disease. A tendency to formation of a diaphysis is not in all cases entirely lacking, as proved by the fact that in certain cases there was subsequent growth. This circumstance guides us in our treatment of the disease. Stimulation of latent faculty for growth is indicated, and this end is most effectually attained by constant use of the atrophied limb.

Deformity of the Leg following Resection of the Knee in Children.—André⁸ reports two cases seen in the service of Gross. All surgeons who have performed with frequency the operation of intra-epiphyseal resection in children have noticed the occasional occurrence of deviations in the knee operated upon. They occur in cases which show no tendency to a recurrence of the tuberculous process. Flexion is the most common deformity, but is sometimes associated with genu valgum or genu varum. Either of the latter may exist alone. The tendency of these deformities is to increase. Neglect to immobilize the limb in complete extension, and too early removal of

the immobilizing apparatus, are factors in the causation of this affection. The author enters into the reasons for the production of the deformity.

Diabetes Insipidus.—G. Eichhorn¹⁴ writes about this disorder as it occurs in children.

Diarrhea, Infantile.—A. F. Plicque¹⁵ says : 1. Simple diarrhea, caused by cold or by defective alimentation, should be promptly treated by care of the diet, by a purgative, such as castor oil with orange juice or sulphate of soda in sugared water, which will often suffice to cure the disorder. Injections of starchy water with half a drop or drop of laudanum may be tried. Bismuth or astringents may be given internally. Persistent diarrheas must be treated by opium. 2. Bilious diarrheas may be diagnosed from green bacillary diarrhea by the addition of a drop of nitric acid to the stains made by the fecal matter, when the characteristic violet and rose coloration will be seen. Alkaline treatment is all-important. Bicarbonate of soda at the rate of fifteen grains in the twenty-four hours for each two and one-half pounds of the child's weight, and must never be more than one and a half drachms. If the biliary diarrhea be dependent upon tuberculosis of the liver it will resist all treatment. 3. Green diarrhea due to bacilli may be acute and cause death in one or two days, or, becoming chronic, may prove fatal from athrepsia. In addition to general hygienic measures we should give lactic acid. 4. Cholera infantum may occur during the course of one of the varieties of diarrhea alluded to. Its two special symptoms are peripheric algidity with cyanosis of the extremities, with, perhaps, rectal elevation of temperature ; collapse with complete inertia, which is occasionally interrupted by subsultus and respiratory effort. Feeding should be insisted upon in spite of vomiting. Chicken broth is oftentimes better tolerated than milk. The latter with a few drops of brandy or rum may be given by teaspoonfuls. Lactic acid, hydrochloric acid, and laudanum constitute the medical treatment. Stimulants, internal (malaga, champagne, coffee, ammoniacal elixir) or external (hot mustard baths, injections of ether), should be given.

Diphtheria.—Steinhardt¹⁶ contributes an article called "Treatment of Diphtheria without Serum Therapy." According to the author we require more striking proof of the curative power of serum than has thus far been forthcoming. Meantime he holds it to be a duty of those physicians who, previous to the introduction of serum therapy, experienced as satisfactory results in their treatment of the disease as subsequently, to recommend as well as to cherish their well-tried methods. Steinhardt states that in every diphtheria epidemic mortality is greatest in the beginning, because, in most cases, at the outbreak of an epidemic the attention of parents is not aroused until laryngeal stenosis has developed. Occurrence of fatal cases abolishes the indolence noticeable at such times ; cases are brought earlier for treatment, and a lowered death rate results, largely because, according to the author, at onset of the

disease almost any local remedy proves effectual. The author says that salient proof will have been rendered that we have in serum therapy a specific only when many cases clinically demonstrated to be diphtheria shall have been cured without other treatment, local or general, than serum. Such method, not being practicable in private practice, should be put to the test in hospitals. Steinhardt describes his treatment, terming it a modification of Henning's method. At onset of the disease a laxative, preferably calomel, is given. Lime water is employed locally thus: every half-hour the patient sips slowly a table-spoonful of undiluted lime water. Cold applications are made externally every half-hour. Internally "Chinadecoct." and potassium chloride are administered, one drachm to half an ounce q. 2 h., according to age of patient. S. E. Henschen "describes a case of acute disseminated sclerosis of the spinal cord with neuritis following diphtheria in a child, giving the result of the autopsy and of the microscopical examination of sections of the cord at different levels. Certain nerves were also studied microscopically. In his résumé the author says: (1) The above is a rare case of disseminated sclerosis following diphtheria; (2) it is an acute case, almost without parallel; (3) there has thus far been no anatomical demonstration of sclerosis of this kind in a child; (4) because of its acute character it presents clinically a picture of myelitis; (5) it demonstrates the close relationship existing between sclerosis and infectious diseases; (6) it is most easily accounted for by the toxin theory; (7) anatomically it is an inflammation and throws light upon the pathogenesis of disseminated sclerosis; (8) furthermore there exist marked neuritis of the nerves of the lower extremities, and slight degeneration of the nerves of the arms. John H. McCollum " gives the results obtained in the South Department, Boston City Hospital, from the use of antitoxin. He reports a diminution of the death rate from 46 per cent when antitoxin was not used to one of 12.50 per cent when it was used. Walter L. Pyle " makes some suggestions concerning a new treatment of diphtheria by means of the intravenous injection of mercuric chloride. Melvin M. Franklin " reports twenty-five cases of intubation of the larynx. O. Soltman " reports results obtained with Behring's antitoxin in the Children's Hospital in 1895. C. Hartung " discusses the exanthemata following serum therapy in diphtheria. L. De Blasi " and G. Russo-Travali report the result of their bacteriological researches of 234 pseudo-membranes and describe the methods followed. The results were as follows: 1. Absence of Löffler's bacillus, presence of staphylococci, streptococci, Fränkel's pneumococcus, bacillus coli, in 26 cases; mortality, 3.84 per cent. 2. Löffler's bacillus, pure, 102 cases; mortality, 27.45 per cent. 3. Löffler's bacillus associated with the staphylococcus pyogenes, 76 cases; mortality, 32.89 per cent. 4. Löffler's bacillus associated with the streptococcus pyogenes, 20 cases; mortality, 30 per cent. 5. Löffler's bacillus associated with the pneumococcus and the streptococcus, 7 cases; mor-

ality, 43 per cent. 6. Löffler's bacillus associated with the bacillus coli, 3 cases; 3 deaths. Pellier " believes in small doses of the serum, not repeated with great frequency. Traigniaud " reports a case which emphasizes the point that diphtheria may be contracted from a patient long after he is supposed to be cured. Bacilli are often found in the mouth and throat four months after the occurrence of the disease. L. E. Dupuy " reports a small epidemic of this disease which started in a threatening manner, but was promptly arrested, thanks to prophylactic hygienic measures, medical antisepsis, and serum therapy. He believes that a bacteriological examination alone is not sufficient to decide the question as to the necessity of injecting antitoxin, but that the clinical aspect of the case must also receive due consideration. J. G. McNaughton " reports seventeen consecutive cases treated with antitoxin, all cured. The remedy was used promptly. The variety of diphtheria in Birmingham had not been mild. Albuminuria occurred in eight of the cases. Antitoxin rash occurred in seven cases, upon body, limbs, and face, and resembled a very confluent measles eruptions; as a rule it faded within twenty-four hours. M. Sevestre " does not agree with M. Variot in thinking that codeine would be a desirable medicine to use for spasm of the glottis. In a disease so depressing as diphtheria opium in all its forms should be avoided. He prefers antipyrin, which acts energetically and is quickly eliminated. He prefers the use of cold compresses. G. Variot " again enters a protest against the diagnosis of diphtheria based entirely or chiefly upon the bacteriological examination. In his hospital injections of serum are made according to the clinical aspects of the case. He cites several cases to prove that the presence of the Löffler bacillus does not necessarily imply diphtheria. M. Ghika " reports a case of fatal diphtheria characterized by pharyngeal and nasal hemorrhage. G. Variot ' and Raoul Bayeux report nine cases in which the O'Dwyer tubes were successfully used for *écouvillonnage* in laryngo-tracheal diphtheria in which intubation was not practicable. Some cases, after one insertion of the tube, which was withdrawn soon after, coughed up the membranes and were cured; in others the tube was inserted more than once, either to completely loosen a partially loosened membrane or to dilate the glottis. Ettore de Minicis, " upon being called to a serious case of diphtheria, was prevented from injecting the antitoxin by the failure of his hypodermatic syringe to work, for which reason he administered it by the mouth in a cup of milk. He found next day that not only had the membrane ceased to extend, but that it was beginning to separate and all the intense symptoms had disappeared. A complete cure resulted in a week. Other cases are quoted to prove that the serum is efficacious when administered in this manner. M. R. Bosquier " describes two cases in the same family treated with the serum. Recovery was good.

Disseminated Infectious Gangrene of the Skin in Children.—Médéric Caillaud " describes this disease, which occurs

in two forms. In the first the gangrene appears upon a previously existing ulcer of the skin. In the second the gangrene appears after a non-ulcerating skin lesion and seems to constitute an essential element of the disease. It occurs principally in children between 1 and 3 years of age. General debility, caused by poverty and defective hygiene, and diathetic diseases play a great part in the etiology. It sometimes occurs in the form of epidemics, and is especially contagious when there are erosions and ulcerations to admit the contagion. It is especially apt to follow in the wake of any disease which affects the skin, varicella in especial. The symptoms consist in the appearance of vesicles or bullæ from pin-head size to that of a bean, filled with a turbid fluid. After twenty-four hours this becomes a pustule surrounded by a yellowish-brown zone, and this by a zone of hyperemia; twenty-four hours later both pustules and zones increase in size, and on the fourth day the gangrene is typical in form and similar to gangrene secondary to ulcerating affections of the skin. Disseminated gangrene may be situated upon any part of the skin, but is found chiefly in the lower part of the abdomen and back, upon the thighs, in the periarticular regions, sometimes on the face or the scalp. In favorable cases the eschars fall in from eight to fifteen days, and the cicatrices are formed by the thirtieth or fortieth day. In severe cases the course is more rapid—fever, vomiting, intractable diarrhea, sometimes accompanied by intestinal hemorrhage, occur; the patient is pale and somnolent; death supervenes and is sometimes preceded by convulsions. The prognosis is grave, as certainly half of the cases are fatal. That this disease occurs so rarely as a complication of the infectious diseases of childhood is due to the antiseptic and hygienic measures so generally observed. Should it appear the most energetic treatment is demanded. Several times a day the child must be put into a three per cent boric acid or 1:10,000 bichloride bath. The lesions must be covered with a wet dressing in the beginning and if they suppurate; later with antiseptic powders in moderate amount. Collodion is to be avoided.

Dyspepsia of the Newly-born.—Albert Robin.²² Gastric troubles are the most frequent of all infantile diseases. Five times out of ten they are due to overfeeding. The child's stomach is very small, and in the newly-born there is no cul-de-sac, so that it has no capacity for storing up food and should be given only what it can digest immediately. Small amounts of milk should be given at a time, and the child should be nursed at two hours' intervals. The author calls attention to the changes which occur in milk, rendering it unfit for use, and to the fact that too early weaning and substitution of solid for liquid food may cause indigestion. Trousseau's rule that the state of dentition should determine the nature of the food is an excellent precept. The pancreas does not begin to secrete its special ferment until the fourth month; the salivary glands begin to furnish diastase about the ninth month, and their full power

is attained only at the eleventh month. Starchy substances, therefore, cannot be digested at all before the fourth month and nitrogenous matters before the tenth. Vomiting is the characteristic symptom of infantile dyspepsia, but should be carefully distinguished from a mere regurgitation; the latter occurs immediately after nursing, the former about an hour later and consists of acid-smelling clots.

Erythema, Infectious.—Albert Meyer " reports a case of this disease.

Extraordinary Migration of a Vegetable Substance in the Human Body from the Stomach to the Shoulder.—Nicola Gallotti " gives the account of a boy of 10 years whom he attended for abdominal pains unaccompanied by fever or any phenomena of gastritis. This condition lasted for ten or fifteen days, when the abdominal pain disappeared and the patient complained of pain in the shoulder blade. There was at first no visible cause for this pain, but in the course of a few days a swelling the size of a lemon appeared, extending from the lower border of the left scapula toward the right side. It was painful to the slightest touch. Seven or eight days later the skin of the affected part began to be reddened, and the author opened the tumor; several members of the family were obliged to leave the room from the fetid odor of the creamy, ichorous pus which poured out from the cavity. The odor persisted for several days, in spite of irrigations with a carbolyzed solution and a drainage tube left *in situ*. The slightest pressure still caused intense pain. One morning a dark body was seen in the depths of the cavity, and, being removed with the forceps, was found to be a blade of grass. The patient remembered having swallowed it. Why did this foreign body escape all action of the gastric and intestinal juices, what route did it take, and what organs did it traverse to reach the place where it was found? Why did it not cause gastritis, peritonitis, pulmonitis, or traumatism of any kind? The case is mysterious and seems to be without a parallel, so far as herbaceous vegetables are concerned. Woody and mineral bodies have been known to migrate in the body.

Gonorrheal Tendovaginitis.—A contribution to the study of gonorrhea in childhood is presented under this title by Seiffert."

Hemophilia in a Child of Eleven Months.—M. J. Comby" reports the case of a child who since the age of 3 weeks has been the subject of repeated attacks of epistaxis from no apparent cause and very difficult to check. Hemorrhages from the mouth, tongue, and even the intestines, occur from time to time; the slightest scratch or injury causes cutaneous hemorrhages of severity. Ecchymotic spots may be seen scattered about in the dermis. In spite of all these hemorrhages the child, although pale, is well nourished, bright, and well. The parents of the little girl are in good health; a brother of the father died at the age of 20 years from an irreducible epistaxis.

Hip, Congenital Luxation.—A. Broca " thinks that a luxa-

tion in a child under 5 years of age may be completely cured and leave no trace of lameness by means of operation. But he believes that at that age no operation should ever be undertaken until a long trial has been given to treatment with Lorenz's apparatus. This latter obtains reduction of the displacement by manoeuvres of extension, abduction, and internal rotation, and then fixes the limb in forced abduction. The patient is allowed to walk, and the head of the femur gradually, by pressure of the body weight, forms a cavity for itself. The operation in children of from 10 to 12 years usually causes marked improvement, but rarely a complete cure. Its best results are at an earlier age.

Hydrocele, Congenital.—S. Duplay " gives a clinical lecture upon the subject.

Idiocy.—Bourneville " and J. Noir report a case of idiocy characterized by physical and moral abnormality, acrocephaly, complete blindness, partial deafness, epilepsy, relative dwarfishness, and obesity. There was a family history of two insane relatives on the paternal side, one alcoholic and one epileptic on the maternal side, and a half-brother suffering from mental instability and perversion of instincts.

Jaundice.—J. A. C. Kynoch " reports a case of fatal infantile jaundice from congenital narrowing of the common bile duct.

Lateral Curvature of the Spine.—The treatment of this malady is discussed by Stewart Le Roy McCurdy, " and a description of a simple and efficient brace is added by the author. He also reports the occurrence of six-fingered anomalies in three generations.

Albert Hoffa " describes a severe case of this disease treated by operation, resection of the bulging ribs having been performed. Patient 10 years old. In his second year marked rachitical scoliosis developed. Treatment by the ordinary methods caused but slight improvement. The operation was successfully performed, patient being able on the eighth day to leave his bed and walk about for a short time. Illustrations of the case before and after operation show marked modification of curvature after resection.

Lumbar Puncture.—A. H. Wentworth " has written an exhaustive article to show (1) that the withdrawal of fluid from the subarachnoid space by means of lumbar puncture is a harmless procedure; (2) that the slightest cloudiness present at the time when the fluid is withdrawn, caused by the presence of cells in the fluid, and the formation of fibrin after it has stood for several hours, are pathognomonic of an inflammatory exudation in the meninges, and are never absent in cases of meningitis; (3) that the normal fluid is absolutely clear and free from all cellular elements and fibrin. The finding of tubercle bacilli requires more technical knowledge of staining methods than the majority of practitioners possess, and, in addition, the recognition of tubercle bacilli is not invariably easy. Especially is this true in tubercular meningitis, where the process

often consists of a few miliary tubercles in the pia at the base of the brain and along the fissures of Sylvius and Rolando, together with more or less inflammatory exudation. All inflammatory processes are accompanied by the exudation of serum and cells, and there is no anatomical reason why this exudate in cases of meningitis should not become mixed with the cerebro-spinal fluid and appear in the fluid which one withdraws from the subarachnoid space, except possibly in cases of abscess of the brain where it is sufficiently encapsulated to prevent this admixture. The author illustrates these views with numerous cases and tables.

Macula Lutea, A Rare Fatal Disease of Infancy with Symmetrical Changes in the.—Carl Koller " reports two cases of a rare and generally fatal disease or degeneration in infancy associated with early blindness and characteristic retinal changes. In reading through the histories of these and other cases one is struck by their uniformity. The children are born of healthy parents with no history of syphilis; most of them, if not all, are Eastern Jews, with their well-known tendency to neurotic degeneration. Up to the third or fifth month of age the children develop well; between the third and eighth months, sometimes sooner, a peculiar weakness of the muscles shows itself. The children are unable to hold the head up, the back is weak, the muscles are flabby, the reflexes are present. The further development is retrograde, both as to body and mind. The children do not learn to walk, present the picture of idiocy, and fall into a condition of marasmus to which they succumb at the age of about 2 years. The eye symptoms, although not always first noticed, seem to be the very first and seem to appear in the first weeks or months of the child's life. The ophthalmoscopic picture is of striking uniformity. The yellow-spot region is the site of a whitish opacity, the centre of which shows a cherry-red spot. The discs are mostly yellowish or grayish, discolored, but otherwise appear normal; later on atrophy develops. The affection is a family disease; two, three, and even four cases have been observed to occur in the same family. Until this affection has been cleared up the author is of opinion that the anatomical substratum of the affection is most likely a degenerative process in the cortex of the brain and in the retina.

Mastoiditis and Furunculosis of the Ear.—M. Broca " in a clinical lecture notes that furunculosis of the ear accompanied by lymphangitis frequently resembles a mastoiditis. He cured a little girl in four days by instillations of carbolyzed glycerin, for whom a colleague had thought trephining necessary. This treatment he considers the best. When there is no suppuration of the ganglia or connective tissue he uses wet antiseptic dressings of the parts affected. Furuncle of the auditory canal is treated by pouring in carbolyzed glycerin, 1:40 in infants and 1:20 in children over 6 years, keeping it in place by cotton pads.

Middle-ear Disease.—Gorham Bacon " reports a case of

brain abscess secondary to chronic suppurative otitis media, presenting unusual symptoms, which recovered after operation. The case illustrates the point that a patient with a cerebral abscess may have chills, high temperature, rapid pulse, and convulsions, so that it becomes extremely difficult in such cases to make a differential diagnosis between abscess of the brain and thrombosis of the lateral sinus.

Felix Cohn⁴⁰ formulates the indications for perforating the mastoid in acute and chronic inflammation of the middle ear as follows: The presence of hyperemia and congestion alone is no indication for opening the mastoid. The mastoid should be opened in all cases of diagnosed osteitis, if under the usual antiphlogistic treatment the inflammation shows no tendency to resolution; in pronounced cases of antral empyema in which the character of the discharge is purulent and the empyema shows no tendency to discharge completely through the middle ear; in all cases of protracted otitis with profuse otorrhea which show no tendency to resolve within a reasonable period, the time chosen for the operation depending upon the manifest symptoms—whether, for instance, retention is present or the mastoid bone itself is involved; in every case of acute otitis in which there are dangerous symptoms of resorption, and in which the drainage cannot be established by paracentesis or by the natural perforation; in all cases of muco-purulent otitis in which the otitis is evidently maintained by mastoid involvement, the time for operation depending upon the condition of the patient and the presence or absence of symptoms pointing to retention or other complications of a serious nature; in cases of mastoid disease, or otitis complicated by lymphangitis or lymphadenitis, in which there is an imminent danger of the formation of an abscess, and in those cases in which the lymphadenitis does not tend to resolve under ordinary antiphlogistic treatment; in cases of protracted otitis in which there are symptoms of serious secondary complications, involving danger of extension of the inflammation inward toward the brain or downward toward the neck; in cases of acute otitis in which complicating stenosis of the external canal prevents drainage and thorough cleansing of the middle ear.

Louis J. Lautenbach⁴¹ has an article entitled "Phono- and Pneumo-massage in Suppurating Disease of the Ear." He believes that pneumo-massage aids in the prevention of inflammation, as well as in the curative measures of the inflammatory action, through the aid it affords by thoroughly cleansing the middle ear of all the discharges, thus relieving the excessive tension, preventing infiltration and disintegration of the ear structures with consequent extension to the internal ear or mastoid cells, or both. Pneumo-massage preserves intact the normal sound-conducting structures, and restores them, when ankylosed or abnormally attached or restricted in their movements, to a condition more nearly natural than can be attained by any other method. It relieves the increased pressure on the internal ear so often observed as the cause of deafness in these

cases. Phono-massage restores, at least in part, to the internal ear structures their normal receptiveness by occasioning a physiological stimulation of the nerve endings and their connecting parts, which had, either from disease or increased pressure, been placed in a dormant or non-responsive condition.

Milk.—A. B. Marfan " calls attention to the fact that in the sterilization of milk it should be subjected to the action of heat as soon after milking as possible. A neglect of this rule will often cause serious diarrhea, for when fermentation has once begun the ferments may be destroyed by sterilization, but not the products of fermentation. G. Variot " describes various processes for the sterilization of milk, in Paris especially.

Overwork in Schools.—Philip Coombs Knapp " has written some observations on the influence of overwork in school in the production of nervous diseases in childhood.

Orchitis Parotidea in Infancy is considered by Steiner. "

Oxyuria Vermicularis.—J. Comby " advises the use of injections at night of a solution such as the following :

Tansy,	3 ss.
Infused in water,	$\frac{3}{8}$ vjss.
Glycerin,	$\frac{3}{8}$ v.

or,

Water,	$\frac{3}{8}$ v.
Glycerin,	$\frac{3}{8}$ i.
Sulphuric ether,	gtt. xx.

or,

Santonin,	gr. iv.
Infused in water,	$\frac{3}{8}$ v.

Other prescriptions are given. Whichever one is used, it should be preceded by an injection of water and retained as long as possible. Pomades introduced into the anus and rectum prevent migration of the parasites and relieve the itching.

Vaselin,	$\frac{3}{8}$ i.
Calomel,	gr. xlv.

or,

Lanolin, {	$\bar{a}\bar{a}$ $\frac{3}{8}$ ss.
Vaselin, {	
Yellow oxide of mercury,	gr. v.

are both good. Suppositories of cocoa butter thirty to forty-five grains, calomel one and a half grains, may be used. These local measures are merely palliative, and internal treatment will be necessary to destroy the parasite. Comby advises in every case the administration for three consecutive days, upon an empty stomach, of one grain of santonin and two grains of calomel in a teaspoonful of sweetened milk, combined with intra-anal inunction of five drachms of glycerole of starch and two and a half drachms of Neapolitan unguent.

Paraplegia from Vertebral Tuberculosis.—A. Chipault " reports a case in a child of 11 years.

Parotitis due to Saccharomyces Albicans.—M. Brindeau " reports a case in an infant under 2 weeks old. The parotid

gland was incised and discharged a yellowish pus containing staphylococci. Within the next fifteen days all the articulations of the body became arthritic, and thirty abscesses containing white staphylococci were opened. The child died at 6 weeks, and an enormous abscess was found pointing at the third cervical vertebra. The pus had dissected away the esophagus. The liver and kidneys had undergone amyloid degeneration.

Pemphigus Vulgaris, Acute, in a Child of eleven years.—M. Florea Simeonescu " reports a case which he considers proves that this disease, in opposition to the generally received opinion, can occur in children older than 2 years; that it is caused by defective alimentation and digestive troubles; and that tonic and hygienic treatment suffices for a cure, without recourse to medication.

Pertussis.—Ferreira, " in considering the treatment by bromoform, thinks that when topical medication is unsuccessful and periglottic swabbing with germicidal solutions not practicable, we must rely upon general therapeutic measures. Belladonna and atropine are very efficacious in subduing the attacks, but their poisonous properties render them objectionable in many cases. Bromoform possesses equally marked properties, acts with promptness in subduing the attacks, and often causes a real cure of the disease. It is easily administered, and well tolerated in even the youngest children; its action is both sedative and antiseptic, and it is destined to occupy an important position in the treatment of pertussis.

O. Jarke ' describes a case of acute symmetrical softening of the brain in pertussis. Theodor ' reports two cases of hemiplegia and a case of hemiplegia and chorea minor accompanying this disease.

Phrenoglottic Spasm in Nursing Infants.—Henri Vergniaud ' reports a case in a child of 7 months who had about forty attacks daily. The child was in every way normal for the first two months of life, and the disease appeared suddenly and without apparent cause. Treatment, which resulted in a complete cure, consisted of five or six teaspoonfuls daily of :

Tincture of musk.....	gtt. xx.
" " belladonna.....	x.
Cherry-laurel water.	3 ij.
Syrup of orange flower..	3 v.
Lettuce water.....	3 ij. 3 ijss.

(2) Teyssendré's syrup, and (3) a drop or two of chloroform during the attacks.

Phrenoglottic spasm is not dependent upon any lesion of the larynx or its nerves; it is not a pure glottic convulsion, for the diaphragm and other muscles of respiration take part in it. It is a neurosis and partakes of the nature of epilepsy.

Pott's Disease.—A. Chipault " describes a new method of treatment for this disease, consisting in ligation of the spinous apophyses of the affected region with silver wire. The patient

being anesthetized, an incision is made along the apophyseal line extending above and below the gibbous region to a distance including two or three vertebræ at least. Without touching the interspinous ligaments, the crest of the process is denuded to the right and to the left, and special retractors which seize all the paravertebral tissues are inserted. Two assistants then endeavor to reduce the deformity, which being accomplished more or less perfectly, a silver wire is passed through the interspinous ligament, subjacent to the highest apophysis which it is desired to fix, to its superior border, and as near as possible to its base, and then cut in such a manner as to leave upon each side of the perforation an end of wire twice the length of the wound. These two ends of wire are then crossed in the interapophyseal space beneath the one into which they have been inserted, and then again in each subsequent space, until they have reached the last exposed spinous process, under which they are fastened by twisting them firmly around each other. The author gives directions as to some details of the procedure and describes the obstacles to be encountered, and reports five cases in which a successful operation was performed. This procedure is indicated in cases in which the deformity is not excessive, in which it has occurred brusquely and is more or less reducible under chloroform, and which is accompanied by spinal troubles. Rigorous immobilization of the ligated rachis must follow. The operation is merely an auxiliary to orthopedic treatment with suitable apparatus, not a cure in itself.

Precocious Menstruation.—J. W. Irion " reports a case in which a bloody discharge from the vagina was noted in an infant 7 days old and lasted four days. The flow returned with perfect regularity, and the child presents many of the characteristic developments of puberty, though not yet a year old.

Precocity.—E. Regis " reports the case of a child of 29 months who is gifted with a remarkable memory. He remembers everything that is told him, is able to identify and give the names to pictures of the kings of France, and answers questions in geography. He is in every respect a normal, healthy child, and his parents, so far from stimulating his mind or pushing him forward, teach him nothing, not even the usual childish fairy tales or rhymes. His precocity alarmed them to such an extent that they consulted a physician in regard to it.

Scarlet Fever.—James Niven " discusses the phenomenon of "return cases." He thinks they are due to infection from the cases discharged from the hospitals. The infection may easily be stored away in the upper air passages of the patient where it has been intercepted. This infective material will in all probability be discharged intermittently, and will thus take effect at uncertain but not far distant periods after the return of the first cases to their homes.

Jérôme Lange " reports a case of scarlet fever and measles—double infection. Having studied cases previously quoted by

other authors, Lange argues that the toxins of scarlet fever and measles may, independently the one of the other, attack an individual; further, that the course of one disease is in no way altered or intensified by the coincident attack. On the contrary, in some instances both diseases develop simultaneously without influencing each other.

Spasm of the Glottis during the Course of Broncho-pneumonia.—G. Variot " has met with cases of spasm of the glottis during the course of a broncho-pneumonia when the incompletely developed mediastinal glands had not been involved in the inflammatory process, so that their connection with the origin of the recurrent laryngeal nerve could have played no part in the causation. There must have been a reflex laryngeal spasm, caused by some lesion in the respiratory tissues. It is difficult to distinguish these cases from croup. Cases are described.

Status Lymphaticus of Children.—H. Escherich " has written some observations on this subject.

Stercoraceous Tumor.—Eduard Tordens " reports the death of a child of 17 months from a stercoraceous tumor which had not interfered with the ejection of fecal matters; at the autopsy no sign of internal strangulation could be found. The child was rachitic, bottle-fed, and constipated from its birth. When first seen by the author she had been vomiting for several days and had passed stools tinged with blood. A hard, round tumor could be felt just above the pubes. In spite of injections of tepid water with Esmark's apparatus the child died, apparently of exhaustion, on the fifth day. At the autopsy the sigmoid flexure was found to be three times its normal size, owing to the presence of a hard, yellowish ball of fecal matter four to five centimetres in diameter. The intestine above the tumor was dilated by gases. Pulmonary emphysema was present, caused evidently by the crying and straining of the child. The tumor was to a certain extent movable, and had an exact diagnosis been possible it might probably have been removed by curetting.

Syphilis.—Bruno Bosso " writes upon hereditary syphilitic interstitial keratitis and its relation to joint affections.

Tenia: its Treatment in Childhood.—J. Comby " advises in children from 7 to 15 years of age: (1) a milk diet on the day before treatment; (2) fasting, the following dose:

Ethereal extract of male fern.....	. 3 jss.
Essence of turpentine	gr xv.
Syrup of orange flowers.....	3 j.
Peppermint water.....	3 jss.

(3) a half-hour later five drachms of castor oil. He cites a number of prescriptions given by various physicians. If the head is not found, two or three months later another remedy may be tried or the same in larger amount. If the symptoms point to a parasite without portions of it being actually found, the remedy may be administered. As to prophylaxis, raw or

rare meat should be avoided, or, if any morbid condition necessitates the administration of raw meat, mutton is preferable to beef, as avoiding the dangers of tuberculosis or helminthiasis.

Talipes.—Richard Barwell "believes that the Röntgen ray confers on surgeons the power of doing with pretty accurate precision what they have hitherto been able to do but tentatively—namely, to plan beforehand the mode and extent of their osseous operations. A. Baquel "studies forced reduction and tarsoclasia in the reduction of this deformity in childhood, describing Lorenz's method in detail.

Teething.—W. G. Winner "reports a case in which some unusual symptoms connected with teething were observed. The child developed a condition which closely resembled pneumonia accompanied with diarrhea, and, though death seemed imminent, it finally recovered on the ninth day, when an incision was made through the gum over both central incisors, which were nearing the surface. The therapy of difficult dentition is discussed by H. Naegeli-Akerblom."

Tetanus Neonatorum.—Louis E. Stevenson "reports a case. He thinks the child may have become predisposed to the disorder on account of an unusually long-continued pressure on its head during birth. The disease in this case was overcome by means of chloral.

Tuberculosis.—Hugo Laser "has an article upon the frequent occurrence of tubercular glands of the neck in children. Tuberculosis in the young is discussed by Fedor Schwey, "who praises the balsam of Peru as an efficient means of treatment.

Tuberculous Meningitis.—M. Chirot "reports a case in a child of 4 years; the noteworthy points were that there were no cries, that there were phenomena of cortical irritation (contracture of the left leg, automatic movements of the right leg), and that post mortem no tuberculous lesions were found except in the brain, the propagation evidently having been by means of the vascular system.

Upward Displacement of the Humerus.—M. Denuce "reports a case in a child of 7 years.

Vesical Calculus.—J. Verhooger "reports an operation upon a boy 12 years of age for the removal of a phosphato-uric-acid calculus which filled the whole bladder and sent a prolongation an inch long and an inch in diameter at its base into the urethra.

Wet-nurses: the Relation of their Physical Condition to that of the Nursing Infants.—Pierre Budin "thus sums up his article: 1. The nurse was indisposed, and, as a result, on the following day the three children under her care had lost weight. 2. The nurse had a violent attack of ill-temper; the two infants in her care lost weight; one of them had liquid stools during twenty-four hours, and the other had green stools and diarrhea. She nursed her own child, who also had diarrhea. 3. Menstruation having occurred, the two nursing infants lost weight and developed erythema of the buttocks and thighs.

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ORIGINAL COMMUNICATIONS.

PRINCIPLES AND PROGRESS IN GYNECOLOGY.¹

BY

JOSEPH PRICE, M.D.,
Philadelphia.

I APPRECIATE the honor attaching to the position of president of this occasion, and consider my election a most gratifying expression of personal and professional kindness on your part. My elevation to the office, which imposes responsibility and places me in close and honorable relationship with a body made up of earnest, enthusiastic, and eminent men of the medical profession, was unexpected, unsolicited, undesired, and undeserved. It was and is my feeling that there are those of our body, my seniors in years, men of wide experience, who have spent toiling lives in the interest of humanity and our profession, more deserving the honor your partiality has conferred upon me. We should honor these men as they pass, for amid the fitful changes of life the opportunity may come

¹ President's address, read by title at the meeting of the American Association of Obstetricians and Gynecologists, at Richmond, September 23d-24th, 1896.

but once. I give utterance to that which is sincere when I thank you for that which I cannot otherwise interpret than as an honest expression of confidence and good-will on your part. The best form in which I can convey to you my feeling of obligation is through the intelligent, faithful, and impartial discharge of the duties of my office. We all like position in this "Vanity Fair" of ours, but, aside from all lower motives, a man who is chosen as president of such an organization as ours may well congratulate himself, as I congratulate myself, if you will pardon the conceit, upon the fact that his work has been at least partially successful.

Such a mark of confidence and esteem as you have bestowed upon me will ever be for my encouragement. The recognition of our blind labors, by a sympathetic band of co-workers, is a most delightful refreshment compared with the worldly indifference, the cavil, which usually greets our endeavors. I hope not to fail to appreciate duly the work of others, or to estimate justly the motives and extent of their efforts, and that I may not be too vain and arrogant to abandon my own faults, or, recognizing them, too spiritless and weak to correct them.

He serves the profession, our humankind, best who gives us the lessons of his successes.

The failures we all have point a warning finger, and, while they rarely direct a wiser way, are strong appeals for that better wisdom which is the evolvment of experience. The causes of our failures should be subjected to the severest of analysis, and our errors of opinion or practice to a free, generous, and kindly criticism. We have no fear of the men who know us for what we are—worthy men, ambitious only for unselfish, clean personal and professional lives ; for records with lessons in them, stimulating and guiding to higher planes of usefulness and success. What we find to honor most in Nature is her very equitable distribution of brains, both as to quality and quantity ; the wisdom with which she adapts intellect, faculties, aptitudes, and skill to varied human needs, not all alike, yet like in very difference ; the faculty to meet and deal with some human necessity, responsive to some want ; the courage and ability to mitigate some evil, correct some vicious condition, reduce the total of human suffering and add to the total of human happiness.

The doctrine of disease holds a peculiar place among the natural sciences. It is laid down in the opening sentences of the Hippocratic treatise that the medical art upon which all

men are dependent should not be made subject to the influence of any hypothesis.

Even the old father of medicine gave utterance more than twenty-three hundred years ago to a truth which many physicians of to-day fail to grasp. Every patient we meet is of different temperament, build, and state of health. Each particular element in the cure of that patient must be considered from different standpoints of character and disposition, in addition to the difficulties of the actual diseased organ. Only guides of the most general nature may be employed, and these can only be formed by long and patient trials.

We can make laws for every sort of matter in the universe except the living organism. Geologic formations are easy of conception as compared with the nature of actual live tissue. To come to a fine point, your metaphysician stops with growth. We can observe development, determine its direction sometimes, but never will we be able to define the actual principle of growing, the source of the energy, the power that starts the bud and blade—that

“Instinct within that reaches and towers,
And, groping blindly above it for light,
Climbs to a soul in grass and flowers.”

I desire to attach special importance and emphasis to certain utterances of my predecessor, Dr. Carstens. I cannot do it better than in his own words: “We have societies which bring together medical men for the purpose of exchanging views. Some think we have too many medical societies in this country, but as I look around I do not think so; I doubt whether we have enough. Considering the extent of our territory, it can be readily seen that we must have many in order to reach the mass of the profession. Many men travel thousands of miles to attend medical societies, in order to give with their own lips views based upon their own experience. Let us continue from the homogeneous to the heterogeneous. Let the profession branch out in every possible direction; let as many societies be formed as possible. Each does some good; it raises up some of the profession to a higher and nobler plane; it prevents many from becoming fossils.

“When we consider the work of special societies we readily see how the men whose experience is large in any particular branch must naturally arrive at correct conclusions ultimately. The path may be circuitous and thorny, but finally it will be

smooth and straight. Although the general practitioner often in a jocosse manner belittles and ridicules the specialist, there is no doubt that the specialist has done a great deal for the general practitioner."

There should be medical societies, in which every phase of medical science and art is discussed, in every city and county of every State of our Union. From these the greater bodies of State and national societies can be made up, gynecological, obstetrical, and other special organizations can be recruited.

In the work of professional men special organizations have always performed a most important part. Every branch of industry has developed a society helpful to the interests of its members. Many associations formed by tradesmen have been largely protective. Our profession, for some reason, has found not so much cause for protective organization, but we have a *more urgent* need of association for the purpose of reporting and discussing methods, the results of our observations and clinical experiences. Men of the trades find no necessity of materially increasing their knowledge of the work. Their occupations are, as a rule, of such a nature as to require little attention after the first periods of instruction and experience. Ours is constantly developing new difficulties, requiring a better application of our science.

It is then that the interchange of our experiences is invaluable to the profession.

There are many warnings which we can sound in associations like this, which, if observed, would lead us to guard against many evils. We will instance several. Nothing is more common than the contamination of patients by instrumental interference and local treatment. Dilatations are practised without the patient even knowing what has been done. This is too common a deception for an educated and honorable profession.

I have repeatedly examined virgins coming from specialists and hospitals wholly ignorant of a forcible dilatation having been performed. Several cases of deep fissure of the cervix, in which I inquired as to whether they had not had an abortion or a child. They then told me they had been etherized and examined. In further evidence I will relate the history of a case but recently in my hands—one of many within my experience. A young working-woman gives the following history: "I have had a number of operations performed upon me. I consulted Prof. —. He told me that I had inflammation of the womb and that he would have to scrape it; to this I sub-

mitted. My general health and symptoms continued the same, with a development of pain on the right side. He then told me that the right ovary was diseased and would have to be removed. I permitted its removal. I grew very much worse after the operation, and he suggested the removal of the other ovary. He removed it, leaving me more miserable than ever. My sufferings and symptoms, he then said, were due to displacement of the womb, and urged stitching it forward to the abdominal wall. This was done; no relief followed. He then suggested the removal of the body of the womb, and again I yielded to his counsel. My pain and health at present are simply unendurable." At this point the professor proposed for her relief that she try to ride a bicycle. Upon careful examination I found a large cluster of bowel adhesions filling the pelvis, and on the right side with a strongly anchored cicatrix to omentum and bowel—a painful and mixed condition of adhesions requiring the most careful surgery to unravel and relieve.

It is important that our special societies should be more than endometritis, parametritis and perimetritis, or gauze-packing clubs.

Papers read before our societies often elicit views which have a great value, impress lessons which we carry into our work. Some years ago I read a paper before a special society entitled "Major Gynecological Trouble due to Ignorant and Meddlesome Treatment." It provoked severe adverse criticism. My subsequent experience has not induced me to change the opinions then expressed. I still find that women are *overtreated* for fancied troubles. Dilatation is largely practised on women who, if married, but for this treatment would conceive. Many so treated before and after marriage are made sterile; many are told that they are suffering from endometritis or an affected uterus, and that curetting and drainage are important, but few of these women conceive. We find a large number of these women with advanced tubal and ovarian disease, with uterine and general adhesions. If such pathological conditions existed before the use of the curette, they strongly contraindicated its use; if not, such treatment certainly bears a causal relation to the conditions found. Operators talk flippantly about the infected and rotten uterus and urge its removal: an infected and gangrenous uterus is exceedingly rare; where it exists it is post-puerperal in nature. Endometritis is a disorder of a distinctly specific character. A number of patients have

been told that they had an infected uterus and urged to have it removed; upon examination later by more experienced surgeons marked unilateral troubles were found. After these disorders were corrected conception and child-bearing followed. If the uterus were infected and rotten such patients would not conceive. The saving of a sound ovary and tube has been followed by conception in the cases of almost every operator of large experience. Such experience must convince us that this complaint (infected and rotten uterus) does not exist. The vaginal puncture or incision with drainage for puriform disease of tubes and ovaries is simply copying primitive methods of treatment; such procedure in many cases can only be followed by unfortunate results. The clean removal of disorganized tubes and ovaries is simple, safe, and curative. The simple evacuation of pus, the removal of enlarged tubes in ovarian abscess when extensive bowel adhesions exist, the freeing of bowel adhesions large and small, and the repair of numerous lesions and disorganized points, are the common and important steps of such operation. To dodge such complications by incision or simple removal of the uterus is cowardly surgery. Large numbers of such patients are forced by their unimproved and distressing condition to go into the hands of other surgeons for completed work.

We all recognize the fact that in certain fields of labor theory and practice are closely allied and necessary companions. For instance, the scientist or natural philosopher requires theory in his work. He works from his theories; but, notwithstanding the fact that apparently his success depends upon the truthfulness of his theorizing, I say, without fear of contradiction, that just so far as he has come to a true understanding and analyzation of each factor in his phenomena, just that far he has been brought by his experiences in those various departments at some past time. However the facts may be concealed, however deep the reasoning may be, it can be resolved into a certain number of experiences with which the reasoner has been blessed. The nearer the man approaches to a successful theory the more extensive and varied have been his experiences. His natural sagacity and acuteness of perception are, of course, important factors in his final triumph. The whole progress of humanity has depended upon experiences. Nature has practised her vagaries upon us, while we have been content to consider them vagaries until some new experiences have provided

the knowledge or cue which alters our consideration of the phenomena.

In reading of ancient medical works recently I find that from very early dates there were manuscripts containing elaborate directions for the treatment of every known form of disease. These papers were, of course, the result of deep research and extensive experience on the part of the older men. They were for the use of the younger practitioners, but there were accompanying them very emphatic declarations of the necessity for practice. A thorough familiarity with these directions availed the young physician nothing with the populace. He must be apprenticed to the priest-physician and spend long years in patient observation. He must practise upon the easier cases until he acquired a manual skill which with careful exercise would admit him in time to higher work. Thus we see this early distinction between theory and practice.

By theory we understand the expression, by language or certain understood symbols, of the reasons, natural consequences, and certain results of definite processes.

In matter, organic and mineral, Nature is inflexible in her motions. The growths and what we call unnatural phenomena among the diseased organs of mankind are as surely accurate in the course of Nature as are her most surprising prodigies and freaks. In our dealings with a diseased and disabled human organism it is particularly evident that, in consequence of the importance of our mission and our limited time, a degree of judgment and accuracy is demanded the most urgent in all the callings of men. Without arrogance I may say that we physicians, in taking upon ourselves the responsibility of a human life, assuming a knowledge of the most delicate animal formation in existence, relying upon our own natural and acquired powers to relieve and preserve human life through grave maladies and accidents, occupy a position of high trust and responsibility which is easily recognized. The character and high order of this trust is well expressed by Joseph Marie de Maistre: "A physician without a conscience is as much to be dreaded as a highway robber." To this I would add, he is more to be dreaded: one says, "Your money or your life"; the other takes both. As we physicians and surgeons labor for the cure of disease, the correction of the abuse or malformation in the organs involved in the very important process of healthy living, we are impressed with certain particular lines of procedure, over

which we become enthusiastic, set claim to originality, and bespeak before all others. Now, it is not at all improbable that under certain circumstances we may have been blessed with successful application of our theory, while no degree of success whatever would result in other cases with the appearance of similar conditions. How would a person prosper in recovery acting under the suggestions of a well-meaning group of his old-lady friends in regard to curing his cold—under hot baths, oils, and teas?

In mathematical lines theory is the root of all progress—a matter is reasoned out and demonstrated before an actual physical proof is made. Your great French astronomer calculates by the various strengths and directions of lines of attraction the position of an unknown planet, and so correct is his mathematical theorizing that without using his telescope he is certain of that planet. As a proof, he directs a German astronomer, hundreds of miles away, to place his telescope at such and such vertical and horizontal angles. The German does so and finds the planet, with all proportions agreeing to the Frenchman's calculation.

The phases which living animal matter may assume are innumerable. How are we surgeons to know what impurities the blood of our patient may contain; what chemicals the foods contain which his or her taste demands; what atmosphere may have surrounded the patient, what life in her drinking-water, to say nothing of the sweetmeats and so-called luxuries of wines, liquors, etc., possibly of opiates? We encounter a diseased organ in the patient, whom we must aid *immediately*—this is the one great factor absent in many other occupations; we cannot stop to reason out gradually the cause of the malady and its cure. Here is a living being endowed with the Creator's greatest blessing—mind; a suffering woman whom we are bound by our profession to assist, to relieve of distressing conditions—to restore to as broad a basis of healthful and useful living as possible. We cannot tarry or hesitate. A foul wasting of tissue is progressing, consuming the strength-giving elements of the blood, despoiling not only the particular part which it occupies, but slowly annihilating the life, the activity of muscles, and energy of the whole being; drawing to itself all the force in the whole organism and converting it into *dirt*.

Experience is the only guide in surgery. As a greater number of cases are operated upon, a knowledge of the position of the healthy organs is impressed; but more valuable than this

is the idea of the relative strength of the patients. The color of the tissue, flow of blood, appearance of the parts to the practised eye and touch, are sure tokens of the remaining vitality or weakness.

There are vibrations of sound inaudible to our ears, scents and degrees of light and shade beyond our capabilities of discernment. Chemical changes, such as are involved in organic growth, incur the changing of the nature of the substance; such changes we are incapable of conceiving. We are on the outside, as it were, of such matters, and must work so quickly, with such marked discretion and accuracy, as to be beneficial, in no wise adding to the power of the disease in interrupting or embarrassing healthy organs essential to the life of our subject.

Now as to theories. The idea of trying to form some helpful rules and methods of procedure is excellent, and excites an unusual attention to conditions in the operator which is very valuable to him as he proceeds. But one man can tell another very little.

Theory provides practice for the faculties in concentration and reason. Surmises, thoughts, are very profitable in developing the mind. But what a flimsy thing this theory is in the practical world! How valueless to the physician with his patient before him—that queer patient whose symptoms are absolutely unconformable to any previous experience! As a matter of fact, the skilled operator in surgery, the marksman, the devotee of every art which requires that peculiar *finesse* of action and perfect government of the motor centres, acquires his skill as a perfectly natural consequence of repeated experiences. It becomes a matter of adaptation. The whole body tends to the accomplishment of the delicate manœuvre. The mind is centred upon the object in view, and according as its whole attention is absorbed in that object the resultant action is true or otherwise. We often marvel at the dexterity of the gymnast and frequently at our own feats. It is a matter of common wonderment that such extraordinary skill may be developed by experience. Another factor, however, in this marvellous adaptation of the physical abilities to our common needs, is the health of the organs. Surgeons and gentlemen of all vocations desiring the benefits of this peculiar power from training must have an especial care to the highest development of energy and vitality in the body, and the particular sense or senses involved in their work. What a fine cook, mechanic, orator, physician,

or surgeon you would have by instructing the novice in the theoretical part of his vocation !

In every line of achievement, barring the realms of abstract thought, practice precedes theory. The child learns to walk not by reasoning that if he keeps the line of direction within his base he will maintain stable equilibrium. He merely desires to walk, and endeavors in a most aimless manner. His attempts gradually become more successful, and he ultimately walks. He talks after a while because he cannot help himself. He needs some means of expressing his desires. From an early age he attends school, and, absolutely independent of any definite purpose on his part, is gradually developed in mind practice, and becomes versed in the usual school-room lore as a mere matter of course. As his age increases and his acquired faculties disclose the value and importance of his attainments, he recognizes that the tendency of all his early training has been to prepare him for the selection of a purpose in life, a vocation. Then he chooses his line of work and studies it out at one of our great universities. But let him be ever so learned in the university part of the work, he is still almost valueless in his profession. It is true, practical illustrations and experiments are conducted in the college course. But the fact that these experiments are of so little value later to the young graduate only serves as additional proof of the fact that practice is the one important element in proficiency. The young doctor cannot help running into ruts by his reasonings and conjectures upon the declarations of his teachers and the authors of his books. His conceit is supreme—an excellent circumstance, since it arms him with a confidence which, if the results of his work are not too severe upon the poor patient, puts him in the way of much practical experience. The peculiar notions and fallacies which spring up in the minds of these young physicians are the direct result of the theorizing done by themselves, based upon the suggestions of the theorists whom they have studied. Theory is one of the cheapest articles in the market. Yet our ablest theorists, true philosophers, have attained the highest honors. We are too apt in our conceits to value our own cogitations upon a subject much above their comparative worth, chiefly because of an innate personal vanity which is common with us, joined perhaps in certain instances with a desire to benefit mankind by the record of our experiences. The trouble is, we omit or pass over the necessary period of experience. We are not qualified for judgment as to the

reason of certain processes or the explanation of occult matters. The deeply learned only have sanction to instruct. In abdominal surgery, which is such a recent field of labor that the colleges even are not all of them up on the subject, the richest sources for the youthful theorist are open. Much of the teaching in our schools and our literature has tended to encourage needless operations, is indirectly responsible for the mutilation and crippling for life of many noble women, stimulating, as it has and does, men to attempt delicate abdominal operations for which their study, observations, clinical experience, their knowledge of intra-abdominal disease, does not fit them; or, as evil in result, to apply some form of palliative treatment which leaves a serious trouble to grow until the most dexterous and skilful surgery cannot save life.

Milton in literature subjected his entire lifework to the one idea of his immortal epic, Newton in mathematics, Darwin in natural philosophy. Yet even these men labored in an entirely different field of life from ours; their work applied to the intellectual and esthetic qualities of mankind. Ours is a direct application of science and art to the cure of disease or the removal of diseased organs, and our experiences and emergencies are more strange, varied, and urgent than those of any other work of life. Much less can we therefore assume to govern and direct our work by theories. No more dangerous subject for this aimless work could be conceived than gynecology, for the very reason of its youth. It is a subject which requires the greatest care and judgment in its treatment. The advances of our best authorities must be thoroughly considered pathologically before we can trust ourselves to their doctrines.

Without doubt abdominal surgery has attained to some truly remarkable feats, invaluable to women sufferers. The new field has suddenly developed remarkable features which reflect great credit upon the pioneers of our work. The opinion is abroad in the profession that it has become a markedly remunerative practice. It should be; the reward should be commensurate with the benefit. This pecuniary reward and notoriety deservedly acquired by some of our great leaders proved very attractive to a set of rash young physicians, which I fear has done much to bring our science into disrepute. I spoke of the high reward for successful operations. You must not mistake me as indicating that the practitioners in this line are being overburdened by any superabundance of wealth. The cases which they treat are most numerous among the

lower and poorer classes of women ; the very character of many of the troubles with which we have to deal naturally accompanies vice. These women claim our attention in the name of humanity as directly and with as great a stress of moral and professional obligation as the most wealthy. If, then, the few patients can afford to reward specially for services which often are really worth fortunes, this only serves to offset the expense and labor involved in the charity work with which the profession is bound to busy itself. Particularly in the rural districts does this charity work of the physician become most urgent and oppressive. Our country physicians feel obliged to aid all and reap small profit in the squaring of accounts. There is no organized dispensary system to lighten their burden.

The dispensary system which is so invaluable in our large cities is a result of the specialization which has advanced so noticeably within the past century. Eye, ear, throat, skin, in fact all parts of the human anatomy, are now the objects of special study and have established institutions devoted to their diseases, which are there treated most successfully. People generally have not considered specialism as it is—an actual necessity. They doubtless considered it a rather strange development of civilization and put no more thought upon it. The fact of the matter is, specialization is so inseparably connected with all progress as to be almost synonymous terms. How can a man bring himself to anything like a complete knowledge of the different branches and phases of medical work, for instance, in the time preceding his period of manhood or the time when he must prepare himself to earn a livelihood? It is a physical impossibility. The fields are too large. In the early days of civilization the male members of the family performed every part of the rude processes by which the needs of life were supplied. They provided their own clothing, foods, and habitations. These processes became more and more complicated as man grew to reason out comforts and conveniences. Probably for some time he continued as provider for all needs, but it is certain that at some time he abandoned several of his occupations and took up some one of those vocations most pleasing to himself or profitable to the community. His neighbors did likewise. He supplies all of his neighbors with clothing, and in return receives their various wares as he needs them. We have to thank specialization for all our conveniences, for the arts and all those economics which contribute most to our human pleasures, comfort, and happiness. Our trades to-day

present an even more emphatic indication of the value of this system. Men are divided into clothiers, skilled artisans and mechanics, grocers, builders, criminal, civil, and equity lawyers, and so on, each intent upon improving his work. Each man takes his own subject, or even a little part of that subject, to improve and perfect. Result—the civilization of to-day. In medicine this specialization is least noticeable. True, some of our doctors have devoted their lives to the cure of a particular disease, and we have numerous records of the patient efforts of many of our brethren in limited lines of work which are in great measure responsible for what we know regarding the action of certain drugs and chemicals. But the general practitioner is bound so by his community and the necessity of his presence in their time of need that he has practically no chance for specialization. Yet our important office demands more than any other this element of progress. The value of human life is inestimable. We know not how much of the responsibility for disaster through disease rests upon us for our inability or neglect to secure a greater proficiency in particular lines. The general requirements of the local physician occupy so much of his time and attention as to practically bar him from particular research. Yet in no field would special work yield better results or be of more benefit to humanity. However, we may congratulate ourselves that in our day attempts are being made upon specializing the different organs. The general physician must have such a knowledge of his work as will enable him to make a clear and at least an approximately accurate diagnosis of his case and perform the minor surgical operations which demand no special dexterity. The specialist must be ready at call to assist the doctor and add his intelligence at the consultation.

He is the better specialist whose efforts are directed almost exclusively to treatment, medically or surgically, of a limited variety of human ailments. The very exclusiveness of his study and experience must render him more efficient and successful than those whose energy and study are scattered over a broader field. There is no more versatility of talent and capacity in the medical profession than in many other departments of human endeavor. As people look upon the physician, he is to be utilized, in his own neighborhood in particular, as a general convenience and the all-wise man of medicine. As he specializes he must widen his clientage to obtain the necessary field for the work.

The one other point to which I desire to allude is one upon which I feel sure we may all congratulate ourselves.

We have considerable pleasure in noting the absence of individual vanity, or what has been termed the arrogance of success, among the members of our profession who have achieved some truly remarkable triumph. In every other department of work conspicuous lights are discerned—men who have become distinguished by an invention or some lucky chance. Now, in no work are there more frequent discoveries and additions to the useful aids of the operator than in ours. And nowhere are these additions handed over more gracefully or with a better realization of the true significance of real progress, thanks to that generous spirit of common endeavor which exists and should exist in our work as in no other. Our Association is a great exchange of good-will and experience. We are not an aristocracy. The little man with one kid-gloved hand comes in with the gentleman and physician of the countryside, and each in his own way is a valuable member. All are welcome.

CONTUSIONS OF THE ABDOMEN.

A REPORT OF CASES, WITH CONCLUSIONS.¹

BY

WILLIS G. MACDONALD, M.D.,

Adjunct Professor of Surgery, Albany Medical College ; Assistant
Surgeon, Albany Hospital,
Albany, N. Y.

THE treatment of contusions of the abdominal region associated with visceral injuries is an important problem. The question of surgical intervention, although frequently discussed, cannot be regarded as satisfactorily settled. Surgery has not definitely established any series of symptoms or conditions which is an inflexible guide to interference, unless the presence of septic peritonitis is regarded as an indication for operation. A series of personally observed cases, terminating almost uniformly fatally, has led to a careful study of reports and the conclusions reached by different surgeons. I cannot trespass by giving any extended tabulation of the important factors in the clinical histories of the cases, but must content myself with such generalizations as are derived from analysis

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of the material placed at my disposal. The detailed histories of the following cases are given as briefly as admissible for the purpose of illustrating definitely the limits to be defined in the subsequent paper.

CASE I. Rupture of the Jejunum; Death in Sixteen Hours; Autopsy.—A. J. R., aged 12, fell from a stage a distance of five feet, immediately arose, complained of abdominal pain, but stoutly maintained that the wheel did not strike him. He was seen soon after the injury and a careful examination made. His pulse and temperature were normal, and there was no sign of abdominal injury save some tenderness and tension in the umbilical region. The pain was entirely relieved by the administration of one-eighth grain of morphia. The evidences of severe injury were so slight that he was allowed to ride to his home in the suburbs. Later in the day vomiting occurred, and the child passed rapidly into a state of collapse, and died during the night without further medical attendance. At the autopsy the jejunum was found entirely separated from the duodenum, the free intestine being torn from the fixed. There was free extravasation of blood and intestinal contents in the abdominal cavity. Death occurred in this case before any serious inflammatory reaction occurred. Subsequently it was learned from a passenger that the forward wheel of the coach had passed over the abdomen.

CASE II. Rupture of the Stomach, Contusion of Liver, Intraperitoneal Hemorrhage, Septic Peritonitis; Death; Autopsy.—Mr. J. G. R., aged 29, a farmer by occupation and in vigorous health, was injured by being struck in the abdomen by the pole of a wagon while attempting to stop a runaway team. He was knocked down and the team and wagon passed over him. There was no history of a wheel striking him. He was able to rise without assistance, complained of sharp pains in the abdomen, but accompanied the other laborers to the field. Shortly afterward he vomited the contents of his stomach (a recently eaten meal), complained of faintness, was taken home in a wagon, and went to bed. He was described by his wife as very pale and covered with cold perspiration. The vomiting, slightly streaked with blood, continued during the night. He was given freely of ice water for his thirst. A physician was called, who gave an anodyne, left a mixture for nausea, and ordered hot fomentations. I saw him thirty-six hours after the injury. He was in collapse, covered with cold perspiration, subnormal temperature, pulse 160 and very feeble, vomiting continuously and very restless. Urine had been voided naturally. There had been no movement of the bowels. On examination there was no sign of any external violence. The abdomen was distended, very tender, with a board-like resistance of the muscles. There was dulness in the flanks. The liver area was resonant. Although freely stimulated, he died in a few hours. The autopsy revealed the conditions

already detailed. There was a lacerated wound of the anterior wall of the stomach, an inch and a half in length, through which much food and fluids had extravasated. The hemorrhage came from vessels torn in the gastro-celiac omentum. The peritonitis was general and septic.

CASE III. *Rupture of the Ileum, Peritonitis; Death in Eighteen Hours.*—J. H. F., aged 36, a ship-chandler by occupation, was injured while wrestling. The history given was that Mr. F. and several companions, after drinking freely of beer, had a wrestling match, in which he was heavily thrown. He complained of abdominal pain, but soon started for home, walking several blocks. After arriving home he went to bed and called his physician, who gave a very clear account of his condition. He was suffering severe pain in the abdomen, without shock; was tender over right side of abdomen; had vomited. His temperature was normal, and pulse 36. A hypodermatic injection of morphia was given, and fomentations ordered. During the night he grew rapidly worse, and I was asked to see him by his physician early the following morning. When we arrived for consultation at 9 A.M. he was dead. An immediate autopsy was made and a transverse tear in the ileum found. Aside from the early evidences of a virulent peritonitis, the intestines were otherwise healthy. The abdomen was half-filled with effusion and liquid feces. There was no sign of contusion in the abdominal wall.

CASE IV. *Contusion of the Abdomen, Rupture of the Small Intestines; Death; Autopsy.*—J. B. S., aged 49, by occupation a carpenter, was injured by a board being thrown from a planer, striking him in the abdominal region. He immediately complained of severe abdominal pain and vomited. There was no sign of contusion in the abdominal wall. His pulse was 90 six hours after the injury; the abdominal walls were tense and very sensitive. Hot fomentations were applied and anodynes given. His condition grew progressively worse, and I saw him in consultation on the third day after the injury. At that time he was in the last stages of septic peritonitis. The absence of liver dulness was the only distinguishing symptom. No operation was undertaken. An autopsy made the following day revealed multiple rupture of the intestine.

CASE V. *Rupture of the Ileum, Septic Peritonitis; Autopsy.*—C. P., aged 25, a laborer by occupation, was kicked in the abdominal region by a horse. The physician called to see him recognized the serious nature of the injury and ordered his removal to the Albany Hospital. On admission the following day his pulse was 100, temperature and respiration were normal. He complained of severe abdominal pain. Aside from a small contusion, there was no external evidence of injury. The following morning his pulse was 90, but some abdominal distension was now observed. Pain still continued despite liberal doses of morphia. The distension continued to slowly increase, and two days later vomiting occurred. Bowels remained constipated, although repeated efforts by means of

enemata were made. His pulse and temperature now began to rise, all the symptoms became more alarming, and he died four days after the injury. Autopsy: Abdomen markedly distended. On entering the peritoneal cavity, peritonitis at its height found. Free pus and fecal extravasation in the cavity; lymph was found attached to the coats of the intestines, and coils of them glued together by means of plastic lymph. A darkly congested area of small intestine, almost gangrenous, was traced out, and a perforation of the ileum found.

CASE VI.—W. F., aged 37, a motorman by occupation, was thrown from the front platform of a trolley car about 7:30 P.M. The distance fallen was no more than five feet. He received a considerable scalp wound, and complained immediately of severe abdominal pain in the region of the umbilicus. His pulse, respiration, and temperature were normal. There was no local sign of abdominal injury. During the night he received a grain of morphia, hypodermatically injected, for the relief of his abdominal pain. Early the following morning his pulse was 84, temperature 100°. At 9 o'clock his pulse was 96 and the patient had vomited a pint of brownish matter. His pulse continued to rise and at 10:45 was 120 and irregular. Symptoms of profound shock now presented themselves. At 12 noon the abdomen was opened and two perforations of the ileum found, which were closed by Lembert sutures, after which the abdomen was thoroughly flushed with normal salt solution. The patient rallied slowly from the shock of operation. His condition became favorable and continued so for a week. During this time the quantity of fluids allowed him had been somewhat curtailed, and on the night of the eighth day after the operation the patient got up out of bed in the absence of the nurse, walked some distance to the faucet, drank as freely of water as he wished, and returned to bed without assistance. Shortly afterward he was taken with severe pain in the abdomen, went into a condition of collapse, and died. At the autopsy a perforation was found at the seat of a slight abrasion noticed at the time of the operation. It is apparent that had the patient conducted himself properly there would have been little doubt of his ultimate recovery.

CASE VII. *Rupture of Cecum; Operation; Recovery.*—J. W. D., aged 19, a barkeeper by occupation, was suffering from an obstinate constipation, associated with impaction of the cecum. His physician applied himself with considerable energy to the administration of large enemata, the patient being in the knee-chest posture. During the administration of one of these enemata the patient was seized with great pain and went into a condition of collapse. I saw the patient within an hour. The diagnosis of intestinal perforation was made and the patient immediately sent to the hospital by ambulance. An immediate abdominal section was made by the right lateral incision. On division of the peritoneum extravasated liquid feces and fluid poured out. A tear in the cecum an inch long was found and closed. The abdominal cavity was freely irri-

gated, drained, and closed. The recovery was slow but complete. No ulceration of the cecum was found at the operation.

The investigation from an etiological standpoint of lacerations of the digestive tube reveals much that is important. There is nothing more remarkable than the slight degree of violence necessary to produce rupture of the stomach or small intestine. The physical signs of contusion are rarely to be observed in the abdominal walls. Slight falls, as out of bed, striking the abdomen against a chair, or a smart blow from the handle of a barrow, have been known to produce fatal lacerations. Again, under other circumstances, serious blows have been followed by little inconveniences.

Injuries received shortly after the ingestion of a full meal or after partaking freely of liquids are much more serious than those received when the intestinal canal is empty. A smart blow over intestines distended by fluids is associated with an explosive action. The phenomena observed are similar to those seen when a bullet penetrates a closed vessel filled with fluid. The more distended loops of intestines always suffer most from direct blows, such as horse-kicks. On the other hand, in wounds produced by wheels passing over the abdomen the movable portions of the intestines are torn from the fixed portions; a common illustration of which is the tearing of the first portion of the jejunum from the duodenum.

The portions of the digestive tube injured, in order of frequency, are the small intestine, the stomach, the large intestine. The injuries are: complete laceration (most common); partial laceration or contusion of the abdominal coats, without extravasation of the contents, but with great danger of subsequent ulceration and perforation; and laceration of the mesentery involving the integrity of the circulation in the intestine. Allingham reports a case of laceration of the mesentery parallel with the intestinal wall. The wound was repaired without resection, but the patient died subsequently from intestinal gangrene at the seat of injury.

Lacerations of the stomach are more rapidly fatal than those of the small and large intestine. The element of hemorrhage is always an important one in determining the degree of collapse observed.

Manifestly the most important thing in connection with abdominal contusion is the diagnosis or exclusion of visceral injuries. Thomas Bryant has very properly called attention to the difficulty attending diagnosis. It seems to depend upon

the careful and early consideration of the following factors: history of the precise nature of the injury, shock or collapse, pain, vomiting, and physical signs.

Shock or collapse occurs in twenty per cent of the cases and is an early symptom, yet its absence may lead to serious error. In a very considerable number of cases of rupture of the small intestine it has been entirely absent for some hours after the injury. Again, how common it is to see a patient in profound shock after a blow over the stomach, and from which he rallies in a few hours, little worse for the experience! Shock appearing some hours after the injury is always a grave symptom, usually indicating the onset of violent inflammatory reaction or hemorrhage. I may be allowed to use the phrase "increasing shock" to describe a condition where, under the most approved treatment, the patient continues to sink and dies in a few hours. In increasing shock internal hemorrhage is always to be expected. The hemorrhage has its source not only in the solid viscera, but from vessels in the omentum and mesentery. My attention was recently called to a very careful clinical report of a case of ruptured spleen treated by operation with recovery. This report was ideal in its directness and brevity. The whole clinical history covered only four hours—an injury to the abdomen, great pain, no external sign of violence, half-hourly examinations, increasing shock, rapidly rising pulse, a progressively extending area of dullness, operation at the end of the second hour, removal of spleen and clots, saline transfusion, slow reaction, recovery. Had the surgeon in this case waited for reaction no operation would ever have been done. It is through operation alone that increasing shock can be arrested.

Pain is a constant symptom in visceral injury. It is, as a rule, generally disseminated at first, and is so variously described by patients that there is nothing pathognomonic in the variety. However, a distinct tendency to become localized at the seat of injury has been frequently observed. Pain is always a relative symptom—described by one as agonizing, another does not seriously complain. It will be found, however, that morphia will be almost invariably required as a temporary and humane expedient, but not to be repeated without great circumspection. The writer recently saw a patient, the third day after a horse-kick in the abdominal region, who had received a fourth grain of morphia every two hours since the injury. The patient was and had been comfortable, but he died in a few hours. The autopsy revealed septic peritonitis due to extravasation

from multiple openings in the ileum. Here the free administration of anodyne had so masked the true condition that both physician and relatives were quite unprepared for the fatal termination. As a general rule, if pain is not quite fully relieved by a half-grain of morphia in the first twelve hours after the injury, immediate exploratory incision is to be seriously considered.

There are few signs of intra-abdominal mischief more constant than vomiting. As associated with grave injuries to the viscera, it has been rarely absent. It may be considered as early immediately after the injury, and late after the onset of inflammatory symptoms. The contents of the stomach and duodenum are usually promptly ejected after the injury. The vomited material may contain blood. A number of cases of rupture of the stomach have been reported when blood was not seen in the vomited material. Where vomiting is persistent from the first the condition is always grave; it is another indication for early exploration.

The temperature and pulse have been carefully recorded in many cases. In common with all experience in abdominal surgery, the temperature chart has been of little assistance to the surgeon. A rise of temperature about twelve hours after rupture has been a rather constant symptom and has some diagnostic value.

Immediately after abdominal contusions the pulse may be slower than normal, fifty or sixty to the minute, but inhibition soon gives way to paralysis and the pulse becomes progressively higher and more feeble. In a personal case I have seen it rise from 80 to 140 in four hours. Such a progressive rise is an indication for early exploratory celiotomy, quite imperative in itself, and of great value as a factor in the symptom-complex. The pulse, in rare instances, may lead to error. The writer did a late operation in a case of ruptured ileum with purulent peritonitis and obstruction, the pulse being only 88 when the patient was placed on the table. That the increased pulse rate may not be as pronounced as desired until the favorable time for operation is long past is not to be forgotten.

The physical signs found upon examination have been very variable, depending upon the nature of the injury and the time when the examination was made. Unfortunately the results of the early physical explorations are either not given in many cases, or they were seen at a period so remote from the injury that they could not be determined.

There is no more striking condition than the absence or very slight external evidence of injury. During the war in Crimea two accurate autopsies were made on soldiers killed by the "wind of a cannonball." There were no signs of external injury, yet the abdominal viscera were reduced to pulp. Therefore the conclusion that no serious injury can have occurred, since there are no external signs of it, is at once fallacious and dangerous.

Palpation is far more valuable. The early appearance of local or general tension of the abdominal muscles is always an important physical sign, and its presence is always to be investigated with much care. In my own cases it has always been present, at least directly over the injured viscera. The tension is associated with exquisite local tenderness. Dulness is rarely present in the first twenty-four hours, except in cases of hemorrhage, yet a systematic investigation for it is always to be made. As a late sign, if localized, it is a favorable one, indicating the attempt of Nature to limit the disease by plastic exudation. On the other hand, it may indicate the presence of blood, bile, or septic effusion. The late physical signs are those of a general septic peritonitis and require no extended notice at our hands. The one sign of rupture of the intestinal canal—disappearance of the area of liver dulness—is sufficiently constant to be of much diagnostic value. Yet it does not appear until infection has become so generally distributed that operation offers little hope for recovery. No one would feel justified in waiting for its appearance before undertaking an operation for suspected perforation. It is cure, not diagnosis, that is important.

The importance of the early use of the catheter cannot be overestimated. The presence of blood in the urine is an important symptom. A pint of sterilized normal salt solution passed into the abdominal cavity through a ruptured bladder can do no harm, and leads to immediate operation for the repair of that condition, increasing thereby manifold the chances for recovery.

Any injury to the abdomen, associated with immediate visceral lesions of sufficient size to permit of extravasation or considerable hemorrhage, is followed by a fatal termination so uniformly that the exceptions are not to be seriously considered in prognosis. All cases of recovery under the above conditions are open to the criticism of doubtful diagnosis. Out of one hundred and fifty-eight carefully tabulated cases, only seven recovered without operation where the symptoms or physical

signs would reasonably warrant the diagnosis of perforation. Of fifty-one operations reported since 1880, there have been twenty recoveries and thirty-one deaths. Many operations were undertaken at a time when operations seldom reflect much credit on surgery. By comparison, abdominal section in contusion of the abdomen stands precisely on the same ground that it does in gunshot and stab wounds, with the only difference that in gunshot and stab wounds the indications for operation are more immediate and imperative. As much or more extravasation may occur from a lacerated intestine as from a perforated or incised one. Yet the mortality in gunshot and stab wounds is much less simply because the indications for early operation are more distinctive. At the present time, in gunshot wounds in the abdomen, immediate exploration is the rule and better results are attained. In contusions of the abdomen a policy of delay obtains, waiting for symptoms to develop, until general septic peritonitis supervenes. The early operative interference in gunshot wounds marked the period when the mortality became greatly lessened. The early surgical interference in blows upon the abdomen associated with visceral injury will mark the beginning of an epoch of life-saving.

The whole matter resolves itself in diagnosis. Can the history of the nature of the injury, the symptoms and physical signs, together establish sufficiently a presumptive diagnosis to warrant an exploratory celiotomy? The mortality following a simple abdominal exploration in the hands of a competent surgeon is very small; it will scarcely exceed one per cent. In view of our past experience in the treatment of abdominal contusions, is it not better to open the abdomen on well founded suspicion than to await the development of symptoms indicating conditions over which surgery has little control?

Fully appreciating the conditions of the problem, I approach the determination of a symptom-complex associated with abdominal contusions which demand an immediate celiotomy. This symptom-complex depends for its integral factors upon the following points: first, history of the injury; second, the symptoms, pain, shock, vomiting, constipation, and pulse; third, abdominal tension, tenderness, dullness, and distension. Not all of the symptoms which have been already considered are to be observed in every case, but sufficient will be present to warrant, upon careful analysis, an exploratory abdominal section. Explorations undertaken during the first twelve hours

following injury have yielded very flattering results. Operations undertaken after the onset of septic peritonitis have given very little encouragement to surgery. The cases in which no lesions were found at early operations have been very few and never followed by death. It will bear repetition that when unmistakable diagnosis of intestinal rupture is established in contusions of the abdomen, irreparable damage through septic infection has too often occurred. Operation before peritonitis is the art of success.

In the technique of operation there is little that is special to the condition. The abdomen once open, the operation is similar to that for penetrating wounds. The control of hemorrhage, by ligature, clamp, cautery, or tampon, is the first consideration. The systematic examination and repair of injuries follow in order. Principles of surgery already understood apply to every condition. Cleansing the peritoneum by irrigation and subsequently drying, or by sponging alone with suture and drainage, completes the operation. A free incision after the preliminary exploration greatly facilitates subsequent manipulation and saves valuable time.

Surgeons will be compelled to undertake operations in shock. Waiting for reaction can no more be permitted here than in a ruptured tubal pregnancy with progressive hemorrhage.

I am greatly indebted to Dr. William H. George for assistance in the tabulation of cases and bibliography.

37 EAGLE STREET.

TUBO-OVARIAN CYSTS, WITH INTERESTING CASES.*

BY

ALBERT GOLDSPOHN, B.S., M.D.,

Professor of Gynecology, Chicago Post-Graduate Medical School; Attending Gynecologist to the German, the Post-Graduate, and the Charity Hospitals of Chicago, Chicago, Ill.

ALTHOUGH Blasius¹ gave the first description of a post-mortem specimen of tubo-ovarian cysts in 1834, he called it hydrops of the ovary rather erringly, as some more recent authors have done, as Bland Sutton² and G. C. Freeborn.³ Sutton calls only such cases tubo-ovarian cysts where a hydrosalpinx com-

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municates, not by its abdominal ostium, but by a side opening, with some ovarian cyst or follicle.

The correct name given to these formations was suggested in 1853 by Richard,¹ who spoke of "kysts tubo-ovariens" in describing a number of post-mortem specimens, of which he claims to have seen eleven cases, but adequately describes only four. In addition to these he also speaks of some clinical cases with profuent discharges. But in the absence of a specimen obtained by autopsy or operation they are not conclusive.

By a tubo-ovarian cyst we mean a non-purulent sac whose walls are composed, in variable proportion, of the walls of the Fallopian tube and those of some cystic ovarian or parovarian formation, with the coalescence of two or more cavities—at least one from each—into one by a free communication. The fluid contents of such a sac may be serous or hemorrhagic, or may partake, in variable degrees, of the qualities and characteristics of the fluid contained in true glandular ovarian cystomata.

The fimbriæ of the abdominal ostium of the tube may be distinguished or not upon the inner or on the outer side of the ovarian portion of the sac, or they may have coalesced with other structures to form some portion of the walls of the united sac. The ovarian element in this formation can have originated from a hydropic Graafian follicle, a cystic corpus luteum, from the primordial glandular ducts of Pflüger in the ovary, or from the parovarium.

The minimum requirements to be met in recognizing a tubo-ovarian cyst are : (1) to recognize the participation of the tube, which is easy enough from its position and connections ; (2) to prove the participation of the ovary by demonstrating some ovarian tissues in the wall of the sac ; (3) that their cavities are united by some opening through which the mucous membrane of the tube is continuous with the lining of the ovarian cyst or follicle. Judged by this standard, I have been obliged, in making a review of the literature accessible to me, to reject a number of cases that are not adequately described or in which the above three features were not all present. Thus Burnier in his second article² publishes two cases as such, where in each case a hydrosalpinx was soldered to an ovarian cyst without an opening between their cavities. These might have become actual cases later, but they were not such when observed. In the cases of Labbe,³ Anderson and Beale⁴ the ovarian involvement is not proven. And the existence of a tumor and profuent

discharges in a number of cases. without an autopsy, proves nothing.

The total number of authentic cases that I have been able to find in the literature is thirty-eight, by twenty-five different authors, as follows : Blasius, ' Henning, ' Hildebrandt, ' Runge and Thoma, ' von Ott, ' Koetschau, ' Thoma, ' Reboul, ' Lober, ' Schentauer, ' Goodhart, ' Griffith, ' Doran, ' Reed, ' and Bovée ' have each one case; Rokitansky, ' Gottschalk, ' Schramm and Neelsen, ' Wachsmuth, ' and Freeborn ' each describe two cases; while Cullen, ' von Rosthorn, ' and Olshausen ' each report three cases, and Richard ' four cases in 1853. The latter claims to have seen eleven all together, as post-mortem specimens, but does not adequately describe them. The first case of Freeborn, called by him, improperly, an ovarian hydrocele, after the sole definition of Bland Sutton, is a bilateral cyst, and could be counted as a double tubo-ovarian cyst if he had established the presence of ovarian tissues in the sac on the right side. Aside from this I have found only three credible cases of double tubo-ovarian cyst recorded, and my third case constitutes the fourth. Bland Sutton ' calls all these formations ovarian hydroceles, except in the rare instances when a hydrosalpinx communicates with an ovarian cyst, not by the abdominal ostium of the tube, but by some side adventitious opening. There is no reason for such a distinction.

My own cases are as follows :

CASE I.—Mrs. D., æt. 33 years; generally healthy since childhood, and menstruation fairly normal since her fourteenth year; married thirteen years; two children, 11 and 7 years. Endometritis several years following second birth, then two years of health; one year before operation an attack of so-called typhoid fever lasting four weeks, from which she arose with a distinct tube sac on left side and a continuous aching and sometimes lancinating pain, becoming unbearable at time of menstruation. This patient had a profluent discharge two weeks before operation, which afforded her such a relief that she doubted the need of an operation; and on the day before operation, after making the vagina dry, twenty to thirty cubic centimetres of a watery liquid were found in it after bimanual palpation of the cyst. Objectively, find an otherwise healthy woman, with uterus little enlarged, tender, in normal position, but mobility impaired; on its left a fluctuating, tender, immovable sac, size of small fist, with the general characteristics of a hydrosalpinx, but located very low down; ovary not dis-

tinguishable; adnexa right side normal. Diagnosis: Hydrosalpinx sinistra.

January 21st, 1892, abdominal section and removal of left appendages. Normal recovery and good health since then. The cyst was removed without rupture, was the size of a medium fist, and was adherent over most of its surface. When the ligature had been removed from the uterine end the fluid in it could be expelled there by compressing the cyst. On its upper surface it could be enucleated, but from below it required tying off and removal of a section of broad ligament with it. The specimen was of a bluish-white color, had mostly thin membranous walls in which little or no muscular fibre could be seen. Dr. Byron Robinson, who assisted me, demonstrated it at the Chicago Gynecological Society " as follows :

"The cyst has the shape of a retort. The ovary covers the abdominal end of the tube like a shield and is spread out so thin that one can see through it. The tube has no trace of fimbriae left, and nearly every trace of muscle in the ampulla has gone. It contains some four ounces of straw-colored fluid, which has a substance that acts like albumin and may be called paralbumin. In the fluid are found ciliated but mostly non ciliated cells, hemoglobin crystals, and a jelly-like substance." This specimen I have lost.

CASE II.—Mrs. R., æt. 36 years ; acute rheumatism at 15 ; menses at 13, and regularly monthly since then when not pregnant ; married from her twentieth year to thirtieth year ; a normal labor at 22 and a miscarriage of five months at 23 ; two years later in hospital for pelvic inflammation during three months ; since then constant lingering pelvic ailments and always marked pain on the left side ; frequently syncope after coitus.

Status præsens.—Patient generally healthy and of sound body aside from pelvic conditions. Uterus in normal position, large, hard, tender, and partly movable. On left side a distinct cystic body, size of small apple, connected with the uterus but not movable, taken to be a hydrosalpinx. On right side a pipe-stem tube and a hard, nodular, enlarged, immovable, and extremely tender ovary are felt by bimanual palpation.

February 27th, 1894, abdominal section. Removal of tubo-ovarian cyst from left side and a thickened tube and sclerosed ovary with multiple cystic follicles from right side. Very smooth convalescence. Highest temperature 101°. The cyst contained a clear, watery fluid that could be expelled from the

uterine end when the ligature was removed. The outer half only of the tube has partaken of the expansion. The muscle in its walls has faded away gradually into a membranous cyst wall of a bluish-gray color, that is translucent in many places and has the size of a small orange. At the most pendent portion of this cyst it rests in an expanded firmer body of non-membranous tissue which covers about one-sixth of the surface of the cyst and at its edges gradually fades into the membranous portion. By careful macroscopic examination, in the fresh state, Graafian follicles and other ovarian structures could be seen in this body of tissue. The mucous membrane of the tube is continuous with that of the cyst, but no trace remains of fimbriæ within or without the cyst walls, nor is muscular fibre apparent in the cystic portion. The uterine end of the tube was readily permeable and the cyst was easily distended with air through it.

CASE III. *Double Tubo-ovarian Cyst.*—Mrs. L., æt. 32. A robust woman aside from pelvic disorders. Menstruation began at 11 years of age and recurred irregularly every one to three months, attended with severe premenstrual pain, until she was about 19 years old, when the irregularity disappeared but the dysmenorrhea continued. At that time (nineteenth year) she had been married three years, during which time, she says, she received an introduction of a slippery-elm tent into the cervical canal nearly every non-menstrual week. Soon after this treatment and the irregularity of the menstruation subsided, she experienced a new and alarming symptom which was associated with the regular dysmenorrhea until her thirtieth year. Approximately every three months, and during the existence of her premenstrual pain, she experienced a copious watery discharge, so that she was often disappointed to find that it was not the menstrual flow, which would usually follow during the next days. This outpouring of water was so great that it led her and her friends to fear that she had dropsy of some kind that the doctors did not detect, and she took decoction of juniper berries and Carlsbad salts during March, April, and May of each year to counteract the disease. With cessation of these discharges, two years before operation, her troubles grew in form of menorrhagia with severe pain, and constant pain in right inguinal region, bladder, rectum, back, stomach, and chest.

Examination.—Find uterus about normal size, crowded into hollow of sacrum and to the right. A globular cystic tumor,

size of a child's head, fills the upper pelvis on the left side and extends into the abdomen ; is not tender, slightly movable, and cannot well be circumscribed. Deep in the true pelvis, to the right of the displaced uterus, an ovary with cystic attachment, size of an egg, can be felt, extremely tender and immovable. Diagnosis : Left side, ovarian cyst ; right side, septic tubo-ovarian conglomerate.

Abdominal section and removal of both September 11th, 1895. Smooth recovery. The larger tumor contained about a quart of dark-gray mucoid fluid, which was thrown away as it appeared to be an ordinary ovarian cyst. The smaller mass on right, removed *en masse*, after a number of circumventing ligatures in the broad ligament, was recognized as a tubo-ovarian cyst at once. The convoluted tube has walls thickened like a pipe stem near its uterine end, from whence its lumen also grows larger gradually until ten centimetres from its beginning, when it expands, by an aperture large enough to admit a finger, into a cavity half the size of an egg, with membranous walls in its upper half, the lower half being a cup-like structure into which the enlarged ovary at the bottom has been converted, with sides tapering into the membranous parts of the sac. No fimbriæ are recognizable, but numerous striæ of tubal mucous membrane extend continuously from the lower tube wall outward upon the wall of the sac beyond the tubal opening. The larger cyst from the left side is globular and has a diameter of thirteen centimetres. It is surrounded two-thirds of its periphery, over its vertex, by the rather uniformly enlarged but flattened pipe-stem-like tube, whose length from uterine cornu to its opening into the cyst cavity is twenty-five centimetres. The upper segment of the cyst and the tube are covered by a common serous membrane, which constitutes a short mesentery for the inner half of the tube upon the cyst wall ; but in the outer (abdominal) half of its length it very gradually merges into the wall of the sac beneath it, in a manner as the ureter passes into the bladder, until its lumen opens by a valve like aperture, having a free edge for more than half of its circumference on the inner side of the sac. The tubal mucous membrane is continuous with the lining of the cyst over this spur, and three fringy tendrils hang out of this opening into the cyst cavity from one to three centimetres. The larger portion of the cyst wall is from one to three millimetres thick, is wholly composed of fibrous and connective tissues arranged as a network. There is no mucous membrane lining

it, seemingly, and on two small spots examined microscopically the lining membrane had degenerated to a layer of granular material, usually about fifty micromes in breadth, in which are granules of black pigment. The lower and inner segment of the cyst wall, where it had to be tied off from the broad ligament, is from one-half to one and one-half centimetres thick from fibrous and nodular structures in it that are remnants of the expanded left ovary.

These forty-one cases are certainly only a small part of the total number that might be counted if all ante- and post-mortem specimens were thoroughly examined and recorded, and even if all that have been seen were recorded. My three cases constitute at least ten per cent of all the non-purulent tube sacs that I have extirpated ante mortem, the purulent tubo-ovarian conglomerates and abscesses being the great majority.

Anatomically the following is of interest: The general outline of tubo-ovarian cysts is that of a retort, as all authors say. The opening by means of which the tube communicates with the cyst cavity is usually not the abdominal ostium of the tube proper, but corresponds approximately to the point in the tube lumen where the isthmic and ampullar portions of the tube join; and it becomes flexed by reason of its shorter attachment to the broad ligament there, and by the influence of contracting bands or thickening of peritoneum, united with the effect of gravitation upon the expanded ampulla or cyst attached to it. When this is not borne in mind—viz., that the cystic portion is partly made up of the ampulla of the tube—it is easy to mistake some frayed-out strands of muscle from the wall of the ampulla as remnants of fimbriæ in the cyst wall. Again, at this point of flexion of the tube, at an angle more or less acute, a spur is formed, which, being of flaccid material, acts like a valve certainly in many cases, and saves the inner half of the tube from the expanding effect of the cyst contents, and may prevent a profuent discharge even when the uterine ostium of the tube is open. A number of authors found a membrane-like valve at the tubal opening into the cyst. Now, any such valve or other anatomical feature that is intermittent in its action and causes an intermittent outflow of cyst contents has a practical bearing on the growth of the cyst, probably (Neelsen), because it is here as in hydronephrosis with intermittent obstruction of the ureter, where Cohnheim "says that constant intracystic pressure or tension soon causes atrophy of the secreting structures and only smaller tumors are formed;

that the larger cysts occur there, in cases of stricture of the ureter and the like, that do not block its lumen constantly; that by the intermission in the tension the secreting structures are given a new impetus. And the cases in my collection, with a history of profluent discharges, have all had sacs of more than a medium size.

Clinically, as a rule, these cases (if not virgins, like case of v. Ott) have either always been sterile or they have been so for a number of years. At the beginning of or during this time a carefully taken history will usually find subjective evidence of one or more attacks of pelvic inflammation of variable intensity, which effected the necessary changes in tube or ovary, or both, and then caused them to unite. The functions of the pelvic organs during these years have never been normal, but rather regularly or constantly painful. Some of them (five clear cases in this collection of forty-one cases) have profluent discharges through the uterus that afford them temporary relief, but never bring spontaneous recovery.

Objectively, we find nearly the same conditions as in hydrosalpinx or sactosalpinx serosa of August Martin," from which, most authors say, it cannot be distinguished positively. But they are more difficult to extirpate. Hildebrandt in 1876 tied off one-sixth of the lower wall of the sac and left it. Schramm says the difficulty is not merely from their deep location, but that they have no pedicle. Sometimes they are intraligamentous, and otherwise they are so broadly and intimately united to the broad ligament that a part of this must be tied off and taken along, as in my first case.

Etiology.—Here the case of Runge and Thoma and that of v. Ott are very instructive. In the former a hydrosalpinx was united by an adventitious side opening—not an accessory ostium—with an ovarian follicle cyst. The course of the muscular fibres in the adjacent tube wall proved this, and the distant location of the closed abdominal ostium. In the latter case the sactosalpinx serosa formed a common sac with a parovarian cyst, the ovary being completely free. Such cases, among other evidences of inflammation, show the potency of this process in causing these formations (Veit), and they serve to render obsolete the ovulation theory of Richard, to make the assumption of a Fallopian tube congenitally united with an ovary (Beaucamp) less necessary, and they serve to deprive the ingenious theory of Burnier (Schröder) of its unnecessary and doubtful complexness.

The classification of tubo-ovarian cysts is properly a subdivision of sactosalpinx serosa. The processes that pave the way for one of these may also do so for the other. It is germane, then, to consider how does a serous sactosalpinx come to exist. There are few reasons for, and many important reasons against, the view of Pozzi, L. Landau, Bland Sutton, and others that it is the final outcome of a pyosalpinx. On the other hand, a number of series of experiments made by Kehrer, "Josephsen," L. Landau, "Ratschinsky and Domaschewitsch," "Waskresensky," and v. Rosthorn, " respectively, prove collectively that it is closure of the abdominal end of the tube that is followed by a serous distension of it, even without closure of the uterine end. A hydrosalpinx must be formed first, in the opinion of some authors (Neelsen, Burnier, and others).

From a study of specimens, from the results of experiments, and from the arguments of the best authors we may deduce the following conclusions :

1. Tubo-ovarian cysts come to pass in consequence of a plastic inflammatory union between a Fallopian tube and the adjacent ovary, after either or both of these organs and the intervening peritoneum have experienced a non-purulent pathological change of a cystic character; the septum intervening between the two lumina disappearing in consequence of pressure atrophy from the tension of liquid confined on one or both sides of it.

2. This union of a distended tube cavity may occur also with that of a parovarian cyst (v. Ott) or with that of a peritoneal pseudocyst (Zedel).

3. In those rarer cases in which the fimbriæ are really found floating in the interior of the main cyst cavity, we must assume either the congenital anomaly of an "ovarian tube," as was seen by Schneidemühl in a mare—as a *vitium primæ formationis*—or that an ovarian cyst or follicle cyst ruptured and the abdominal end of the tube dropped into the rent and was united to its edges by inflammatory action, thus making a joint cyst and tubal cavity.

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MIXED TUMORS OF THE OVARY:

WITH REPORT OF CASE.¹

BY

WALTER B. CHASE, M.D.,
Gynecologist to the Bushwick Hospital,
Brooklyn, N. Y.

(With two illustrations.)

MIXED tumors of the ovary have a peculiar interest attaching to them for the reason that their diagnosis is often difficult if not impossible. While a large single or multilocular cyst of the ovary or a large solid growth is usually easy to determine, a mixed tumor made up of single or multiple cysts and a solid growth would not be differentiated unless there was a variation in density or fluctuation discernible by palpation or percussion. The true nature of the neoplasm might, however, be apparent in large mixed growths or in those of smaller size in a patient with thin abdominal walls. The etiology of tumors as a whole is a matter of great importance, both in relation to their pathology and their treatment. The question as to what constitutes a tumor may be considered with profit in passing. The classical works of Warren and Senn, which reflect great credit on American authorship, make the literature of the subject a mine of wealth. Senn, in his work on the "Pathology and Surgical Treatment of Tumors," treats this subject in a masterly and discriminating manner. He defines a tumor as a "localized increase of tissue, the product of tissue proliferation of embryonic cells of congenital or post-natal origin produced independently of microbic causes." He also points out the fact that true tumors never disappear, except by destruction or removal; that benign tumors always remain local, and that malignant tumors are disseminated by migration or transportation of their distinctive cells. It would therefore follow that permanency of an adventitious growth is evidence of true tumor formation, and that chronic inflammatory enlargement, as tuberculosis, syphilis, and glanders, must be excluded from the list

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

of tumors. As to the histogenesis of tumors (following Senn), it may be affirmed that a tumor never originates *de novo*, but is always the product of tissue proliferation from a matrix of embryonic cells, and that the character of the tumor depends on the stage of arrested cell growth and the embryonic layer from which the matrix is derived. The division of embryonic tissue into epiblastic, hypoblastic, and mesoblastic lays a broad and comprehensive basis for the study of tumor growth and its differentiation; remembering always that no transmission from one type to another occurs, though it is admitted that a benign tumor may be transformed into a malignant growth by a development of cells of embryonic or post-natal growth already present.

Here, then, is the groundwork in brief, brought to light by biologic and histologic study, on which to rear the structure of a rational and scientific pathology. The application of these principles of embryonic cell growth simplifies and elucidates the problem of tumor formation. It is a natural and logical inference that if papilloma, adenoma, cystoma, or carcinoma develops in the ovary it arises from the epiblastic and hypoblastic embryonic cells; if fibroma, sarcoma, osteoma, neuroma are found, the mesoblastic layer of embryonic cells is the matrix of such benign tumors and sarcomata, which represent the connective-tissue types of true tumors; and when dermoid cysts develop, their origin is from the several layers of embryonic structure—the epiblast, the hypoblast, and the mesoblast. The blending, infolding, or displacement of these several structures constitutes true dermoids and belongs to the group of teratomata. The clinical history of the development of tumor growths might with profit engage our attention, but can only be referred to. The origin of these embryonic cells and the time of their development bear a constant and important relation to the character of this cell proliferation. If the tumor matrix is made up of embryonic cells of the lowest development, there is greater liability of the formation of a malignant tumor than if from a matrix representing embryonic cells capable of tissue development of the highest physiological type. One pertinent fact should never be lost sight of—that benign tumors originate as benign tumors, and malignant growths as malignant. An important point in the differential diagnosis of benign and malignant tumors is that benign tumors have a limiting capsule and grow slowly, while malignant tumors grow rapidly and possess no such capsule. The behavior of latent embryonic cells—

under changed conditions—resulting from traumatism, irritation, or varying blood supply, should not be lost sight of.

So, too, the normal or diminished resistance of adjoining structures has a determining influence in tumor growth. An appreciation of the conditions of pathologic development and the marvellous uniformity of the operation of the law of proliferation in normal and pathologic development, aids materially in simplifying the genesis of tumor growth, whether benign or malignant, and, when focussed in the glass of modern histologic research, yields the composite picture of mixed tumor formations. Cystic disease of the ovary is of such common occurrence as to be of interest in this connection. After much study Bland Sutton says he never observed a “cyst in the corpus luteum” to give rise to tumors which could be perceived during life; he has seen such cysts on the surface of the ovary, though they never caused inconvenience. It was formerly believed that cysts originating in the parovarium were never larger than an orange, but Bantock has observed those which contained several pints. It is the generally accepted belief among pathologists that retention cysts in the ovary never attain a size larger than a hickory-nut. Large cysts of the ovary are not retention cysts, but, like all other true tumors, their origin is from a matrix of embryonic cells. An apparent exception is mentioned by Senn: when “in a Graafian follicle a matrix of embryonic epithelial cells should exist, we can readily understand that the follicle would become the cyst wall while the matrix would furnish the contents.” The common form of large ovarian cysts is that of cyst-adenoma—a benign epithelial tumor. The difference and yet the close relationship between benign adenoma and papilloma, is in the relation of the epithelial cell to the basement membrane; that in adenoma the basement membrane is in the alveoli of the parenchyma of the tumor, while in papilloma it is on the inside. Dermoids of the ovary represent a true teratoma, and are a combination of the growth of matrix cells of the three embryonic layers—the epiblast, the hypoblast, and the mesoblast—which have by infolding, combining, or displacement developed in the same tumor. It would appear from what has been said that the genesis of simple and mixed tumors is divested of much that was misleading and contradictory, and reduced to a simple and rational basis. This theory, while simple and rational, clears up another disputed point in pathology—whether tumors are of local or constitutional origin and whether they are congenital. While

giving proper emphasis to the fact that all tumors are of a local origin, it also demonstrates with great clearness that they are congenital.

The case I have to report is as follows : Mrs. B., aged 60, of English parentage, married but sterile, was operated on by me at St. John's Hospital, August 4th, 1894. The abdomen was distended and tense, and a large cyst clearly outlined, which



FIG. 1.—Mixed tumor of ovary—adeno-cystoma, dermoid, papilloma.

showed increased resistance in its lower right zone, which was suggestive of greater density. She had suffered pain for many years, and to escape suffering she sought operation. While for years she had been cognizant of an abdominal enlargement, the recent increase in size, which had been pretty rapid, dated back eighteen months. The tumor was composed of two separate cysts, the larger containing about two gallons of straw-

colored fluid. The smaller cyst, which was attached to the right side of the larger cyst, contained rather less than a quart of yellowish-brown fluid, and in its walls were two plates of bone. In the walls of both cysts were numerous papillomata from the size of a small hen's egg to those scarcely perceptible to the naked eye. Some of the cysts containing the papillomata

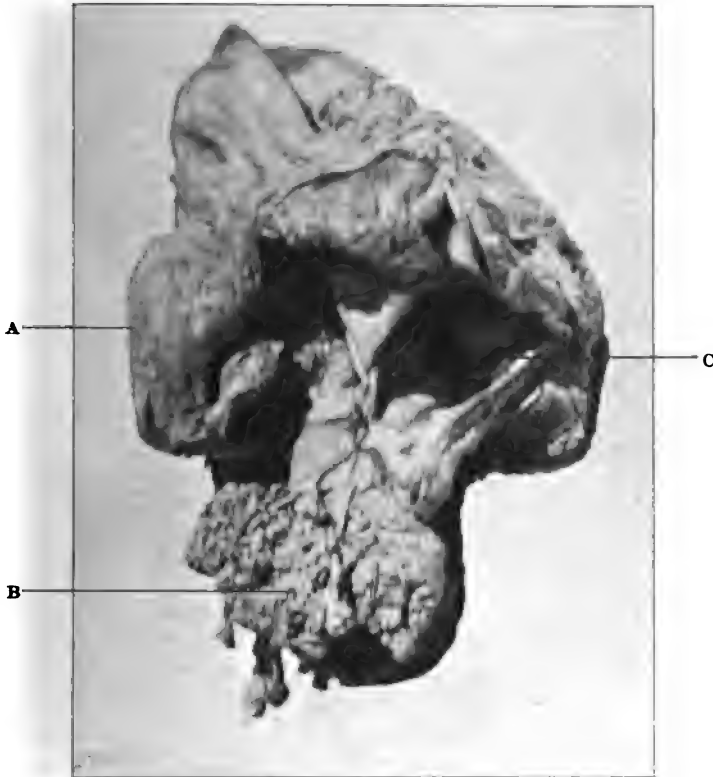


FIG. 2.—Mixed tumor of ovary—adeno-cystoma, dermoid, papilloma. A, cyst not opened, containing papilloma; B, papilloma; C, cyst containing bone-dermoid.

had ruptured through the lining membrane of the larger cyst and were found within its cavity, probably having been detached during the operation. From gross appearances it would appear at point of union of the two cysts that they had a common cyst wall, but microscopical examination would probably show the two cyst walls had coalesced. Dr. H. P. de Forest, patholo-

gist to the Methodist Episcopal Hospital, reports as follows : "The larger cyst is a cyst-adenoma; the encysted tumors in cyst walls, papillomata; and the smaller cyst, a dermoid—forming what may be regarded as a unique and rare pathological specimen."

291 HANCOCK STREET.

HYPERTROPHIC ELONGATION OF THE CERVIX UTERI,
WITH COMPLETE EVERSION OF VAGINA FROM FIBROID TUMOR OF THE
CERVIX. RESTORATION BY SUPRAVAGINAL AMPUTATION OF
THE CERVIX AND INVERSION OF THE VAGINA.¹

BY

GEORGE HENRY NOBLE, M.D.,

President of the Medical Association of Georgia; Secretary of the Section of Obstetrics
and Gynecology, American Medical Association; and Gynecologist to the
Grady Hospital, Atlanta, Ga.

(With four illustrations.)

Mrs. H., a tall countrywoman, came to me from the mountainous region of Georgia on January 25th, 1894. She stated that shortly after her first confinement, which occurred eight and a half years ago, she discovered a tumor, about the size of an ordinary marble, growing upon the neck of her womb, which, after a subsequent childbirth two and a half years later, had grown to the size of a hen's egg. From this time she dates the prolapsus, the tumor having escaped from the vagina. She had not suffered much except from the discomfort of aching dragging, etc. Six years ago the lower extremity of the tumor ulcerated, but afterward healed, and, two months before admission, ulcerated again, from which she suffered the effects of absorption—accelerated pulse, elevated temperature, chills, profuse diaphoresis, etc.—until she became anemic and more or less emaciated. The family history was good.

The condition on admission was as follows: temperature 102½°; pulse 116, weak and compressible; respiration 22 per minute; menstruation normal; bowels recently constipated; painful and frequent urination, and at times incontinence of urine. The urinary analysis disclosed nothing abnormal except

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

a diminished excretion of urea. Vaginal discharges profuse and muco-purulent in character. Heart, lungs, etc., negative.

Inspection shows an egg-shaped fibroid tumor, about nine inches long and six inches in diameter, attached by a pedicle on its side to the upper right margin of the os uteri. There are five superficial ulcers, three upon the anterior and two upon the posterior surface of the tumor, averaging the size of a silver dollar. The vagina is completely everted, not even a sulcus remaining within the vulva. The bladder and rectum are turned out through the vaginal orifice, forming deep pouches

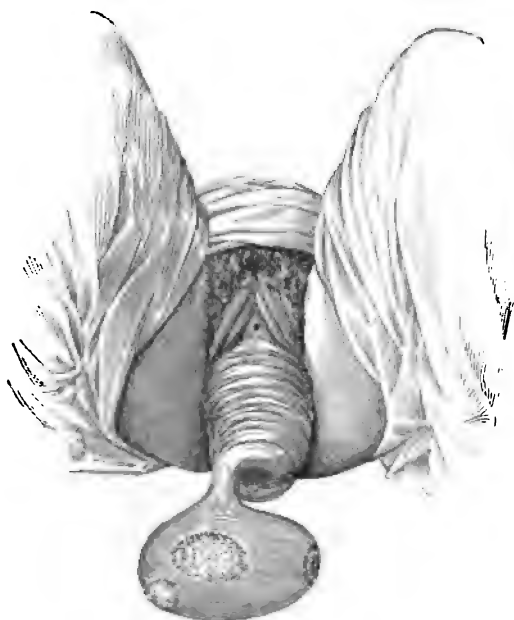


FIG. 1.

FIG. 1.—Showing tumor and everted vagina before operation.

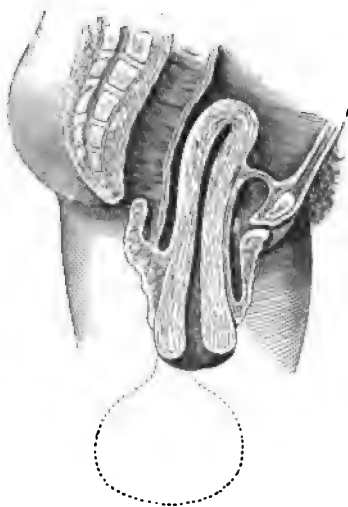


FIG. 2.

FIG. 2.—Sectional view of same.

in front of and behind the mass. The cervix is as large as an ordinary-sized man's wrist, and elongated sufficiently to permit extrusion of the vagina, while the fundus uteri is near its normal position. The cavity of the uterus is three inches deep, that of the cervix seven inches, making a total of ten inches. The round ligaments are very much hypertrophied, feeling like cords larger than a lead pencil. Other pelvic organs seem free from disease.

As hysterectomy is often unsatisfactory in procidentia uteri, I determined to do a supravaginal amputation of the neck and

replace the everted vagina, knowing that the supports were equal to the task of sustaining the parts.

The operation consisted in the usual circular incision dissecting off the bladder, rectum, and post-uterine peritoneum from the cervix for a distance of six and a half inches and amputation of the cervix at the internal os, ligating the uterine arteries and other large vessels as they were encountered. The parts were very vascular; many of the vaginal branches were as large as small quills; consequently the operation was tedious, frequent ligation being necessary. After removal of the neck of the womb the vagina was stitched to the stump by four mattress sutures introduced an inch back of the free margin of the vagina, then through the walls of the uterus, beneath the cut

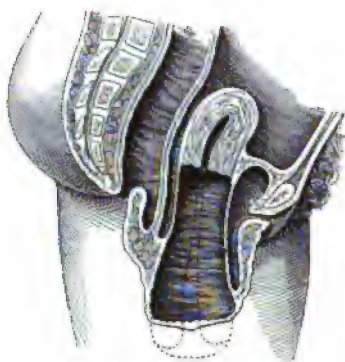


FIG. 3.

FIG. 3.—Dissection of bladder and rectum from cervix uteri, and amputation of latter at the internal os.



FIG. 4.

FIG. 4.—Showing restoration by inverting vagina, rectum, and bladder, and anchoring with mattress sutures in the stump.

surface of the stump, emerging from the cervical canal, then passed in the reverse direction and tied on the surface of the vagina. These sutures served the double purpose of closely applying the vagina to the stump, especially in the angles of the wound, and of controlling oozing from the uterus. The margins of the vagina were fastened by superficial sutures to the mucous membrane of the cervical canal, and the remainder of the wound closed in a transverse line, except at the angles where drainage was provided for. The vagina was dressed with gauze to prevent pouching or pocketing between the opposing raw surfaces. Thirty-eight minutes were consumed in performing the operation.

She made a very fair recovery, considering her condition at the time of the operation. The suppurating tumor having been removed, the temperature dropped, but on the seventh day, when the mattress sutures cut into the tissues, the temperature reached 103°, but came down immediately upon the removal of the stitches. From that time on her recovery was uninterrupted. The uterus mounted higher in the pelvis, the vaginal orifice contracted to some extent, and the vagina, rectum, and bladder remained in their normal positions.

She was dismissed on the tenth day and returned to the laborious duties of a mountain farmer's wife. She has been well two and a half years, without any tendency to recurrence of the prolapsus.

186 SOUTH PRYOR STREET.

DECEPTIVE SIMILARITY OF SIGNS AND SYMPTOMS IN INTRA-ABDOMINAL DISEASE.

WITH CASES.¹

BY

WALTER BLACKBURN DORSETT, M.D.,
St. Louis, Mo.

IN order to arrive at a conclusion and formulate a diagnosis in a given case, be it medical or surgical, the practitioner must exercise care and judgment in the consideration of such signs and symptoms as are presented. Each should be weighed and mental annotations taken as to their value individually and collectively. When so-called pathognomonic symptoms and signs stand out in bold relief the question of a diagnosis is comparatively easily answered ; but when certain seemingly trivial signs and symptoms also accompany the so-called pathognomonic ones a proper cognizance of their presence should also be noticed. The field of abdominal surgery is one in which greater care and more accurate knowledge is necessary on the part of the surgeon than any other, the surgery of the brain not excepted. This is particularly true in the abdominal surgery in the female ; for not only do we here have visceral diseases to cope with, but the diseases of the internal generative organs

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

also, which may or may not mask or complicate operative work. Neoplasms and inflammatory growths, being continuous with or contiguous to visceral lesions, cannot always be outlined and differentiated by known methods of examination, as in inflammatory diseases of the uterine adnexa in their chronic stages or in the beginning disintegration of neoplasms. For the reason that pus does not always point at the most dependent point, but rather at the point of least resistance, the non-inflammatory diseases of viscera or parts thereof may be easily confounded with inflammatory troubles.

Family and Personal History and Habits.—The family history is of importance only so far as hereditary influence may affect a case under consideration. Tubercular disease is supposed to play the most important rôle, yet, so far as the writer's experience goes, in not a single case of tubercular peritonitis or tubercular disease of the appendages found on operation was there a direct history of tuberculous disease in the ancestry. The habits of the individual are of far more importance, should a truthful account be given the surgeon. Women, through fear of the disclosure of pernicious habits, frequently, when they ought to know that it is to their advantage, refuse to give a truthful account of their previous ailments, and, as a consequence, the surgeon is misled and a wrong diagnosis may be the result.

Pulse and Temperature.—The pulse and temperature, being good guides in acute affections, cannot always be relied upon as implicitly in more chronic forms of disease, and the general anemic state of the individual now becomes more important.

Knowledge to be gained by Manual Examination.—By the sense of touch we are generally enabled to distinguish lesions of normally located organs as well as to form an idea of their character; still the fluctuations of fluids in cysts are not always to be distinguished from fluids in compartments due to inflammatory exudates. Fluctuations of fluids, when pent up by thick walls, are not always to be distinguished from resiliency in soft, myomatous growths undergoing disintegration; particularly is this true in the differentiation between myomatous disease and deep fluctuation elicited in intraligamentary abscess. Malposition of different organs, when not presenting marked constitutional disturbances, is sometimes diagnosticated as pathologic lesions of the normally situated pelvic contents. This is particularly true of the spleen, kidney, gall bladder, and occasionally the transverse colon, loops of small intestine, and

vermiform appendix—a spleen for an enlarged ovary or a tumor thereof, a kidney for the same, a sacculated transverse colon or loop of small bowel for a solid or cystic tumor, a diseased appendix for ovarian or pelvic abscess, etc.

The Use of Analgesics.—A large number of patients that come into the hands of abdominal surgeons are from the practice of the family doctor, who may or may not have recognized the true nature of the trouble, and, whether he has or has not, he has not failed to attend to what he conceived to be his first duty—namely, relieve pain; so that what would have been a valuable index to the true condition is lost or destroyed.

The foregoing are a few instances of the difficulties that beset the abdominal surgeon. Conditions physiologic are arrayed against conditions pathologic, and signs and symptoms pathologic against each other; and not infrequently, even by our best men, the abdomen is occasionally opened to find a far different condition existing than was anticipated. Unfortunately for the good of science, few such operations are ever reported, unless by some rival surgeon, and then not in the regular way. The exploratory incision should not be regarded as an evidence of ignorance, but as a legitimate means of diagnosis; and the off-hand diagnostician, or the surgeon who never makes mistakes, should be looked upon with at least a grain of suspicion. Statistics are supposed to be the guides in determining the choice of operative procedures, as is evidenced by their frequent quotations in debates by surgeons who take opposite views in discussing operations; yet when we consider the brilliant work of men whose operations are so entirely different, we cannot refrain from expressing the belief that statistics cannot always be relied upon. “Should a voice come back to us from the dead, the cry would be more light, more knowledge, for our profession.” These words were uttered by the late Dr. John T. Hodgen, one of the most conscientious and able surgeons that it has ever been the writer’s lot to know. They were uttered at a time long before the now known methods of examination and improved operative technique were practised. Yet, in the face of the fact that much life-saving work has of late been achieved, we still find ourselves seeking and pleading for more light.

In order to illustrate the foregoing statements the following cases are here submitted:

CASE I.—Mrs. M., aged 28, married eight years, no pregnancies, was seen by the writer about a week after having

recovered from an attack of malarial fever. Temperature 99°, pulse 90, tongue slightly coated, and a tendency toward diarrhea; complained of general abdominal tenderness, and palpation of the abdomen revealed a slightly more tender spot at McBurney's point. No swelling or tumefaction could be felt. Vaginal examination revealed a retroversion with fixation; no tubal enlargement nor tenderness could be made out. No vaginal discharge. Diagnosis: Gastro-intestinal irritation with chronic inflammation of pelvic contents. A diarrheal mixture was prescribed, and patient was told that further attendance would probably not be necessary.

Four days afterward the writer was telephoned to call some time during the day, but the call was not made until late in the afternoon. At this visit the temperature was found to be 99.8° F., pulse 100. Abdominal palpation now revealed a distinctly tender spot with some swelling at McBurney's point. Upon careful questioning the patient stated that she had eaten heartily of Frankfurt sausage on the day before and had been awakened during the night by cramps at the navel, but that all pain had been quieted by ten drops of laudanum she had taken on her own responsibility. Bimanual examination was again resorted to, with negative results. Diagnosis at this visit was appendicitis, first stage. Drachm doses of salts were prescribed and patient was urged to go to the hospital, but positively refused. On the next day the patient was seen and found sitting in a rocking chair, and, aside from slight tenderness over the abdomen, was feeling quite comfortable. The salts had acted freely. Bimanual examination again gave negative result; temperature 99°, pulse 100. Patient was ordered to bed and advised to keep quiet. The case was regarded as better and thought to be out of danger. On the following day the pain became more severe and the patient came to the hospital of her own accord. Upon examination the right iliac fossa was found to be exceedingly tender and fluctuating. Vaginal examination revealed nothing aside from what was found at the previous examination. Temperature 103°, pulse 130. Diagnosis: Ruptured appendiceal abscess. She was anesthetized, placed upon the table, and a section made in the median line. A large sac was found on the right side, filled with fluid blood and laminated clots, and when washed out a rent in the posterior layer of the broad ligament was found, which communicated with another rent in the Fallopian tube. The appendix was found to be perfectly healthy

and was not disturbed. A thorough washing-out of the sac was done, and ligation of the tube with a portion of the broad ligament; a glass drainage tube was introduced. The utmost care was taken by the nurses, and unceasing watchfulness was exercised by the house surgeon, but the temperature remained high, the pulse became worse, the abdomen became distended, and she died on the third day.

Post-operative diagnosis: Ruptured tubal pregnancy without the usual symptoms. There was no history of shock, no cessation of menstruation, or nervous symptoms of pregnancy; no passage of decidua; no vaginal discharge of any kind, but in its stead a good history and train of signs and symptoms of inflammatory disease of the appendix.

CASE II.—January 8th, 1895, was called to see a young lady aged 18, of fine physique and of good family. A history of chronic constipation with occasional attacks of umbilical colic. At this visit the temperature was 105°, pulse 140. The family were not alarmed, inasmuch as she had about a year previously a similar attack and had been told by the family doctor that she had appendicitis, and was cured by successive doses of salts. By external palpation a circumscribed tumor about the size of a man's fist was outlined in the right iliac region. It was extremely tender to the touch and deep fluctuation could be detected.

An earnest request was made for a vaginal examination, but this was positively declined. The facial expression was that of great pain. Further attendance was denied unless consent was gained to make a section. The diagnosis of appendicitis was made, and our opinion was clearly stated to the patient and the family. After finally gaining their consent the abdomen was opened, and, instead of finding a diseased appendix, a leaking tube and a puddle of pus were found; the appendix having been shut off, and in no way was it involved. The sac was washed out, glass drainage made, and the patient, now already septic, made a slow but good recovery. (I afterward learned that her sweetheart had been treated for gonorrhea.)

Post-operative diagnosis: Pelvic abscess of gonorrheal origin due to leaking tube.

CASE III.—Mrs. H., a brunette; age 35 years; weight, one hundred and twenty pounds; height, five feet four inches; married fifteen years; mother of three children, with a history of easy labors, with no pelvic inflammation following; age of youngest child, 3 years; menstruation irregular since its birth,

six months sometimes elapsing between periods, the last menstruation occurring five and a half months prior to our visit. Upon examination the patient was found to have a distinctly distended abdomen, with a girth measure at the umbilicus of forty-nine inches. Respiration 28. Dyspnea so great that it was impossible for her to assume the recumbent posture. Mammary glands flabby and with no unusually darkened areola. No history of morning nausea nor fetal movements. Bowels constipated and bladder irritable. External palpation revealed distinct fluctuation. Digital examination per vaginam revealed a hard and small cervix, pointing anteriorly toward the bladder. In the cul-de-sac of Douglas a round body, supposed to be the uterine body in the state of retroversion. Rectal examination with patient in genu-pectoral position revealed nothing further than that possibly this body was not adherent. By bimanual examination fluctuation was distinctly felt, and, in addition to the fluctuation, a firm, oblong body, approximately measuring in length four inches, in thickness two inches, on the left side. This body was found to change its position when a change of posture of the patient was made. Diagnosis: Multilocular fibrocystic tumor. Consultation was asked for, and three of the best abdominal surgeons of St. Louis were called in and confirmed the diagnosis and assisted in the surgical work.

The abdomen was opened and what appeared to be a large cyst presented itself; whereupon one of the surgeons handed me a sharp-toothed cyst forceps, with which he requested me to draw the cyst forward. Another equally good surgeon handed the trocar. Both instruments were refused, and the incision extended and the mass brought well up to the incision, and upon close inspection the Fallopian tubes were seen on either side and continuous with the tumor (?). The whole mass was immediately dropped back into the abdomen and the incision closed.

Post-operative diagnosis: Hydramnios with death of fetus before quickening.

The patient was kept in bed for three weeks, when labor set in, which speedily terminated by three or four pains, the fluid, fetus, membranes, and placenta all coming away together. So rapid was this labor that I was not able to reach the hospital before it was terminated, and when I got to her bedside I found the fluid had come away in such quantities that the mattress was soaked through and the floor presented the appearance of a small-sized Noah's flood. The little dead and

shrivelled fetus, with membranes and placenta, was lying between the patient's thighs. She made a good recovery and left the hospital in two weeks, much to her relief and mine also. Before her leaving, however, I obtained her permission to make another examination, which was particularly instructive. When she was placed on her back the uterine body was found to be normally situated, but posteriorly in the cul-de-sac of Douglas and attached to the posterior uterine wall was outlined a small subperitoneal fibroid, which had been taken by myself and confrères for a retroverted uterus. This case was one in which no symptom of pregnancy was present, aside from the girth measure.

A case or two more might be mentioned in detail, but would serve no additional purpose. Suffice it to say, once I found a long and inflamed appendix attached to the fundus of the uterus, which was diagnosed pyosalpinx; twice to the ovary and Fallopian tube, in which neither was involved. Once I operated for appendicitis and found that it was not in the least diseased, but the tumor was a fecal impaction of the caput coli, a constricting band which may or may not have been etiologically inflammatory, but causing signs and symptoms of appendicitis by narrowing the lumen of the bowel, producing pain, elevation of pulse and temperature, and free emesis.

The above were my own cases and were operated upon by me. I am constrained to relate them for the purpose they may serve others. They were studied carefully and with caution, and the mistakes in diagnosis are acknowledged.

While we should not undervalue the importance of well-known and uniformly practised methods of examination, we should be ever mindful of possible complexities that may be encountered in the abdominal section. For this reason the diagnosis and prognosis should always be well guarded.

3941 WEST BELLE PLACE.

A CASE OF PROCIDENTIA UTERI, ELONGATED CERVIX,
COMPLICATING PREGNANCY.

BY

FRANCIS H. STUART, A.M., M.D.,
Obstetrician to the Brooklyn Hospital,
Brooklyn, N. Y.

(With one illustration.)

THE patient was admitted to the Brooklyn Hospital, Low Maternity, May 29th, 1896. She is 32 years of age; quite below the average height; had one child eight years ago. The delivery was by forceps, and was accompanied by extensive laceration of the pelvic floor. Two months after the puerperium she noticed that she had "falling of the womb." For this condition, four years later, she was under treatment at a gynecological clinic, where she was advised to enter the hospital for radical treatment by operation. This she declined. Her condition became worse with the lapse of time, till there was extreme procidentia with recto- and cystocele. Usually she suffered no other discomfort than was occasioned by the prolapsus. She was able readily to empty the bladder and rectum, but at times it was necessary for her to reduce the displacement in order to empty the bladder. In March and also in May, 1895, she had miscarriages at about six weeks' utero-gestation. Her last menstruation began on the 25th of August, 1895. She was therefore, by the usual mode of calculating, due to be delivered June 1st, 1896.

During the whole period of utero-gestation, to the time of commencement of labor, the prolapsus continued. When replaced, as indicated above, it would immediately recur. On the second day after admission Dr. Ford, the house obstetrician, made the following record at my dictation: The cervix is very much enlarged and protrudes from the vulva. The following measurements were taken: from the meatus urinaris to the end of the cervix, two and three-quarter inches; greatest transverse diameter of the cervix, about one-third of an inch from the end, two and one-half inches; greatest circumference, seven and seven-eighths inches; length of cervical

canal, four and one-half inches. There is a deep laceration on the left side of the os uteri. The anterior lip of the cervix is very thick, with marked ectropion, which latter measures one and nine-sixteenths inches in depth and extends across the cervix. The folds of the arbor vitæ are much hypertrophied, so that they are like the stubs of the leaves of a book, measuring about half an inch each. The cervical canal admits the index finger its (the finger's) entire length, when it im-



pinges upon the presenting head. I carefully tried to distinguish the line of the internal os, but the softness of the tissues precluded this. I also employed a trivalvular rectal speculum in the effort to define by sight the limits of the cervix, but the hypertrophied, soft folds of the arbor vitæ filled up the lumen so that this was impossible. On the end of the cervix are several spots denuded of epithelium—one on the posterior right corner and two on the anterior and posterior left corner of the angles of the lacerated cervix. These are indicated quite plainly in the photograph.

The posterior wall of the bladder is drawn down with the cervix, forming a well-defined cystocele, distinctly seen in the photograph, taken June 1st. Before urinating she often replaces the procidentia. She has no trouble in defécation.

The patient remained in this condition till June 5th, when she began to have pain on the right side of the lower portion of the abdomen, but it was not thought by the patient that it was the onset of labor. A binder was applied, with relief during that day from the pain, which was dragging in character. On the 6th she noticed that the procidentia had gradually become reduced, having commenced to go back the preceding day. During the 6th instant she had only occasional labor pains, but the procidentia was not manifest. At 6 o'clock on the morning of the 7th labor came on. An examination made at 9:30 A.M. showed the cervix retracted well up into the vagina. The length of the canal was about one and a half inches; the external os admitted three fingers; the bag of waters was small; pains were severe; the parts were fairly well relaxed. At 11 A.M. the vulva was slightly edematous; retraction had progressed so that the cervical canal was only about three-fourths of an inch long; the os was dilated to the diameter of two inches; the anterior lip was of varying thickness, from three-fourths to one-fourth of an inch; pains good. At 12:40 P.M. the os uteri was dilated to about three inches in diameter; the anterior lip was about one-half an inch thick, the posterior one-fourth; pains severe. At 1:25 P.M. the condition had changed but little; pains very severe, with excessive straining; the small bag of waters was visible at the vulva. Ten minutes later the membranes ruptured and the os contracted to about two inches in diameter. The os gradually dilated again, and, after slow moulding, the head was delivered at 2:53 P.M. The child was small, weighing six pounds and four ounces. The following are the measurements of the head: occipito-frontal diameter, five inches; biparietal, three and three-fourths inches; occipito-mental, six inches; suboccipito-bregmatic, three and three-fourths inches; occipito-frontal circumference, thirteen and one-fourth inches. The slow progress of the labor and the moulding of the child's head were produced by the somewhat firm edema of the cervix and of the tissues composing the outlet of the parturient canal.

The patient was discharged, after an uneventful puerperium, on June 22d. Examination of the pelvic condition on that date revealed the following: Old laceration of the perineum; deep laceration of the cervix; procidentia, the protruding part mea-

suring four and a half inches in length. Near its lower portion the transverse diameter was two and a half inches, and antero-posterior diameter two inches. Its circumference was six and one-half inches. The anterior lip was eroded. Since leaving the hospital the patient has not been seen up to the date of the present writing, October 1st, 1896.

123 JORALEMON STREET.

LUPUS AND OTHER TUBERCULIDES.

BY

GEORGE HENRY FOX, A.M., M.D.,

Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons,
New York ; Physician to the Skin and Cancer Hospital, etc.

(With plate and seven illustrations.)

MANY years ago the fact was noted by dermatological clini-



FIG. 1.—A group of tubercles.

cians that lupus vulgaris was frequently associated with pul-

monary phthisis, and recent microscopical research has demonstrated that in both affections the same bacillus may be found. Lupus vulgaris is therefore one of the clinical forms of cutaneous tuberculosis and may be properly described as a tuberculide. There are other affections of the skin which are commonly associated with the varied symptoms of scrofula and in which the bacillus tuberculosis may be found, but they are clinically distinct, though pathologically related to lupus.



FIG. 2.—Tubercles forming a ring.

Lupus vulgaris is an affection which is often seen in childhood, and which, indeed, begins in most cases before the age of puberty. It usually appears in the form of one or more dull red papules upon the cheek or elsewhere. These slowly increase in number and tend to coalesce (Fig. 1). Frequently the older or central lesions disappear by interstitial absorption and an irregular ring is formed (Fig. 2), or an infiltrated patch with one or two outlying nodules (see plate). Upon the neck the

disease often assumes a serpiginous form, spreading at the margin and enclosing a cicatricial area, dotted, perhaps, by a few recently developed nodules (Fig. 3). This form of the disease may have a somewhat acute character, and, though spreading slowly, may increase in extent much more rapidly than does the nodular form seen upon the cheeks.

Upon the ala nasi, which is a frequent site of lupus, a scaly or crusted patch is often seen, with more or less ulceration, and



FIG. 3.—Serpiginous lupus with central cicatrix.

in time a marked deformity as the result of cicatricial contraction (Fig. 4).

The nodules of lupus, when well developed, have a characteristic translucent, jelly-like appearance, and, though feeling firm and resilient to the touch, are much softer than the normal cutaneous tissue. In an advanced stage the nodules and patches of lupus become somewhat scaly and not infrequently soften and ulcerate. In chronic cases seen in adult life the disease is often found to have spread over the greater portion

of the face, producing a marked ectropion and a partial disappearance of the nose and ears. Such an extensive development of the disease is rarely if ever observed in childhood. Although the face is the most common site of lupus, the trunk and extremities may also be affected, either independently or with the face.

Another tuberculide, or affection in which the bacillus tuberculosis is invariably present, is often met with in childhood as



FIG. 4.—A favorite site of lupus.

well as in adult life, and is known as tuberculosis verrucosa or lupus verrucosus. This consists of dry, warty, or papillomatous patches (Fig. 5), which may develop upon the back of the hand, especially over the knuckles, the wrist, the popliteal spaces, and other portions of the body, and is commonly regarded as the result of local infection. The development of the disease is slow. Ulceration rarely occurs, but the centre of the patch may undergo a spontaneous cure, leaving cicatricial tissue.

Still another form of cutaneous tuberculosis is that commonly described under the name of scrofuloderma. This appears in the form of suppurating or crusted ulcers of the skin in children who usually present other evidences of the scrofulous taint. It is most frequently observed upon the neck over lymphatic glands which have undergone caseous degeneration and softening, although it may occur in multiple discoid lesions



FIG. 5.—Lupus verrucosus (tuberculosis verrucosa cutis).

over the buttocks, thighs, and other portions of the body. When lupus or scrofuloderma attacks the hand or fingers of a child the bony tissue is frequently involved and a strumous dactylitis may develop, or caries with resulting atrophy and a considerable subsequent deformity (Fig. 6).

Lupus erythematosus, though allied in name to lupus vulgaris and often bearing a strong resemblance to it, cannot be

considered as a tuberculide. The bacillus tuberculosis has not been found in this affection, and all attempts at inoculation of animals have given negative results. It may be remarked in passing that this disease, like lupus vulgaris, is most commonly seen upon the face (Fig. 7), but, unlike the common form of lupus, it is rarely seen in childhood.

In the treatment of lupus and the other tuberculides much may be done to improve the general health of the patient and



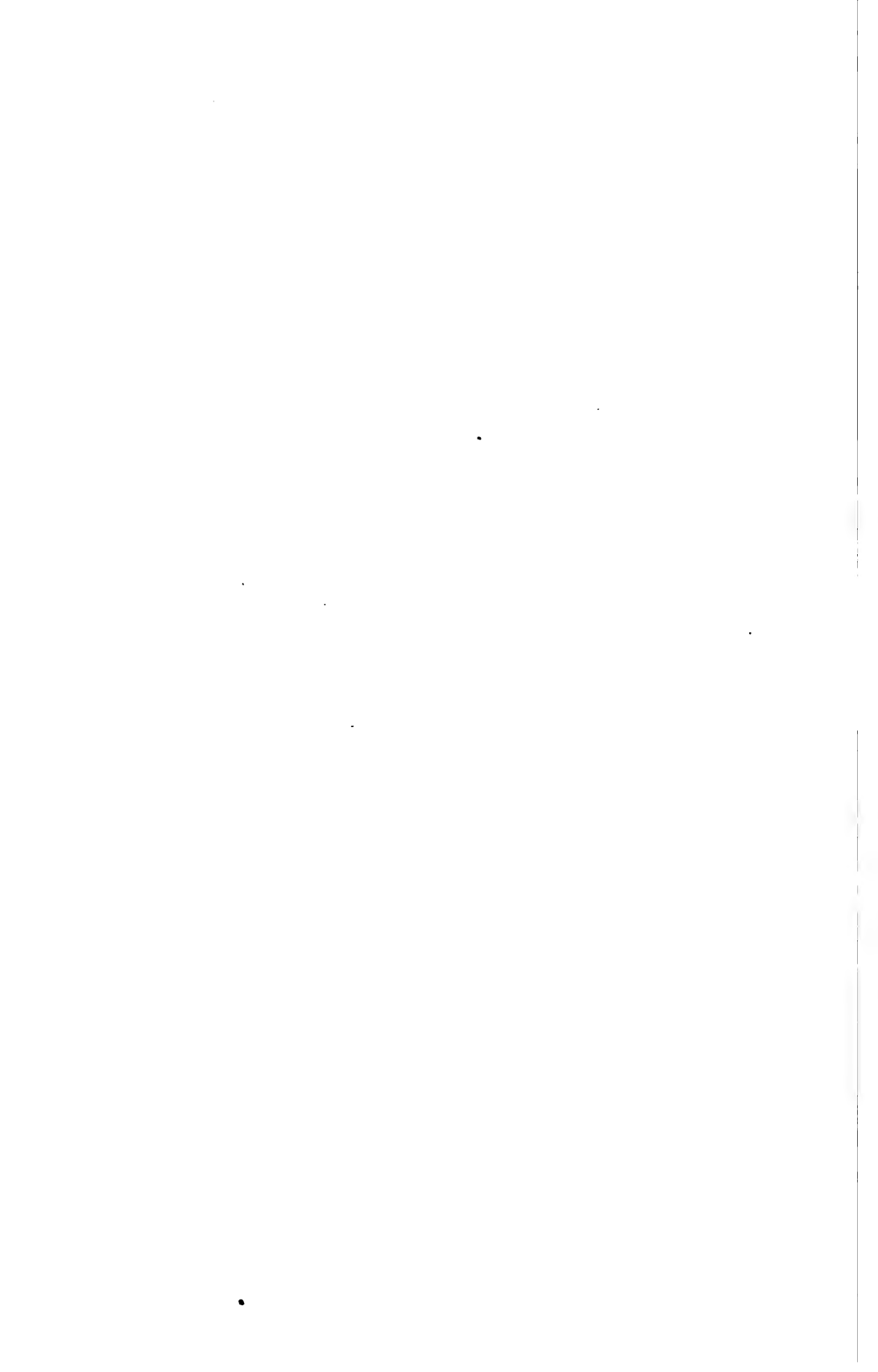
FIG. 6.—Ulcerating lupus with atrophy of bone.

thus to modify to a limited extent the spread of the disease; but to effect a cure a resort to surgical measures is necessary. The palliative treatment by means of ointments and plasters, so frequently employed, need only be mentioned for the sake of condemnation. The morbid tissue must be destroyed, and it matters little how this is done provided it is thoroughly done. The knife, the cautery, and caustic pastes I have used and discarded, believing that by the skilful use of the curette and burr



Lupus Vulgaris.

From the collection of Photographs of Dr. George Henry Fox.



the disease can be removed with the least amount of pain and discomfort and the least resulting disfigurement. For many years I have used the dental burr of varying size, dipped in carbolic acid, for the destruction of lupus nodules, and ever with increasing satisfaction. This instrument readily penetrates the gelatinous lesions, and when the handle is rolled between the fingers, and the burr pressed in various directions, it bores out the softened lupus tissue as it does the carious substance in a



FIG. 7.—Lupus erythematosus.

dental cavity and leaves the normal skin uninjured. In diffused patches of lupus, in scrofulous ulcerations, and in verrucous tuberculosis (after the warty surface has been removed by a salicylic-acid plaster) nothing can be more serviceable than the dermal curette.

TREATMENT OF THE STUMP TO PREVENT ADHESIONS.¹

BY

JAMES FAIRCHILD BALDWIN, A.M., M.D.,

Professor of Surgical Gynecology, Ohio Medical University; Gynecologist to Protestant Hospital, etc., Columbus, O.

SINCE the mortality following abdominal section has been reduced, by the operation of well-known causes, to about five per cent in the hands of skilled operators, attention is more than ever directed to the causes producing this remaining mortality. While large statistics are not available, the estimate is probably not far out of the way that one per cent of all cases operated on die from intestinal adhesions forming at the site of the operation. If, therefore, we can by any means prevent the formation of adhesions, we have at once reduced our present mortality by twenty per cent.

Walthard's discovery that the exposure for only twenty minutes of intestines to dry air would cause sufficient injury to produce adhesions after the return of the intestines to the abdomen, has resulted in the careful protection of intestines by moist sponges or pads, so that we no longer anticipate adhesions as the result of exposure. Sanger, while using dry asepsis, out of one hundred and thirty-two sections lost nine from intestinal obstruction. After adopting moist asepsis, out of seventy-six sections none died from peritoneal adhesions. By moist coverings, therefore, this danger from adhesion of the intestines to each other seems to be practically eliminated.

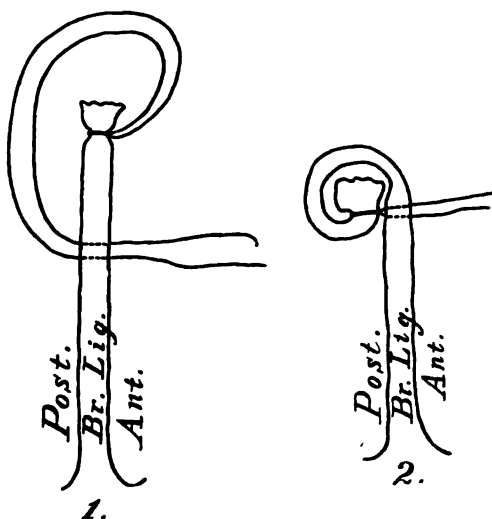
At present the danger of adhesions seems to lie chiefly in the presence of the raw end of the stump left after removal of tumors, pus tubes, etc., or in the presence of raw surfaces left after enucleating growths or masses from the pelvis. As to the covering of raw surfaces, nothing can at present be added to the suggestions offered by Dr. Marcy.

In performing abdominal hysterectomy, either for tumors or for the purpose of removing an infected uterus when removing the appendages, or a uterus which, from removal of the appendages or for any other reason, has become denuded of its peri-

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 23d-24th, 1896.

toneum, the cases must be exceedingly rare in which sufficient peritoneum cannot be obtained, either from the front or back, to entirely cover all the raw surface, giving an entirely smooth and intact floor to the pelvis. I think this method of closing in the stumps of the broad ligaments and cervix is now adopted by nearly all operators, and is certainly a distinct advance over the methods described and depicted in even our most recent works on gynecology. To contribute a little to the technique by which raw stumps may be avoided is the object of this brief paper.

In the case of pus tubes, if removed in the ordinary way, there is left not only a raw stump, but in this stump is the end



Diagrams to show the rolling under of the exposed stump. In Fig. 1 the broad ligament is transfixed by the ligature from behind forward. In Fig. 2 the stump is shown rolled under and the ligature ready to be tied.

of the tube with its mucosa, of more or less doubtful asepsis, pouting into the peritoneal cavity. By a little care the tube itself, which does not bleed, can be separated and cut off by a wedge-shaped section in the horn of the uterus, the artery tied separately between the folds of the broad ligament, and the parts so brought together by a running catgut or kangaroo-tendon suture as to leave no exposed surface whatever. This method is, of course, not original with me, but has been used by others.

In the removal of ordinary ovarian tumors which are supplied with a pedicle of greater or less size, one of two procedures should be resorted to to obviate leaving a raw surface. If

the pedicle is large it should be clamped as high up as possible for the temporary control of hemorrhage, and the tumor removed; next the peritoneum on the anterior surface of the pedicle, or, if none can be easily obtained here, then on the posterior surface, should be dissected down until a sufficient flap is obtained, and the pedicle then ligated in sections at the base of the flap, but not including it; the portion of pedicle above the ligature is cut off and the raw surface, including the ligature, covered in by the peritoneal flap, which is caught down with fine catgut.

In case the pedicle is not too large it can be ligated in the usual way, care being taken merely to keep the ends of the ligature on the anterior face of the pedicle. The pedicle is then severed as usual, and the raw end of the stump covered by rolling it against and under the posterior surface of the broad ligament. This is done by passing the ends of the original ligature through the broad ligament from behind forward, about half an inch apart, and tying them. As the ligature is tightened the raw surface of the stump rolls down until it is completely covered by the broad ligament. Adhesions form at once. I have used this method of covering the stump very many times and with uniform satisfaction.

In all cases where it is possible the omentum should be carefully drawn down and spread out so as to be interposed between the intestines and any exposed or raw surface.

112 NORTH FOURTH STREET.

PELVIC DISEASES AND THEIR PRINCIPAL CAUSES:

WHAT SHOULD THE LAITY BE TAUGHT CONCERNING THEM ?¹

BY

JOHN MILTON DUFF, A.M., M.D., Ph.D.,
Pittsburg, Pa.

NOTWITHSTANDING the fact that some of the prominent members of the medical profession have, in talks to the galleries, held the gynecologists up for ridicule and criticised them severely, I do not think any apology is due either the profession or the public for the character or results of the work of pelvic

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

surgeons. Those members of the profession who have been devoting themselves to the care of diseases peculiar to women have, in the face of revilings and professional and public prejudice, worked patiently and persistently, until they are now obtaining results of which they may well feel proud—results far beyond what the most sanguine expectations of the hardy pioneers of a quarter-century ago led them to hope for. They are to-day charged with irrational radicalism, with an operative mania which is gratified without a proper consideration of the ultimate benefits to the patient. Entreatingly they are urged to adopt more conservative measures and thus stop the wholesale mutilation which is going on at present, which it is claimed is neither scientific nor humane. Sentiments such as these, indorsed by men of reputation, are eagerly taken up by the lay press as sensational news and advertised by pretenders as an indorsement of their methods of practice. Thus the laity are taught false notions regarding the nature of pelvic diseases and their treatment, and, as was expressed by a gentleman a few days ago, are led to believe that in many instances pelvic surgery is legalized murder. That there is a great amount of mutilation connected with pelvic surgery no one will deny, but that regular pelvic surgeons are guilty of reckless despoliation is not, I think, susceptible of proof. We can scarcely be held responsible for the work of reputable general practitioners. For the work of ignorant egotists and pretenders who with brazen effrontery undertake operations for the performance of which they are not qualified by character, experience, or education, the pelvic surgeons disclaim all responsibility. For this they are no more to be held accountable than is the profession in general responsible for the medical pirates and quacksalvers who ply their lecherous practices upon the unsuspecting dupes who rush to do them homage.

During the period of the evolution and upbuilding of pelvic surgery no doubt much of the work was crude and perhaps too much was done by over-zealous operators. That at this day, through mistaken diagnosis, operations are sometimes needlessly performed no one would have the hardihood to deny; that such cases are as frequent as some of the critics say they are I cannot believe.

It has been my pleasure and privilege to witness operations by a great many of the members of this large and representative Association, and I have the first time to see one of them do an operation where there could have been any doubt about its

propriety. Among my immediate associates in my home city, whose operations I very frequently have the pleasure of witnessing, it is indeed seldom that the pathological conditions found are not such as would satisfy any unprejudiced physician of the necessity of the operation. What I claim for the members of this Association and for the operators at my home I have no reason for believing is any the less true of members of other honorable associations or of operators in other communities than my own. Earnest, conscientious surgeons do not deliberately seek for operations so grave in their character, and heedlessly subject their patients to such serious risk, simply to satisfy their desire to operate. The true pelvic surgeon is governed by a nobler purpose, a more elevated aim. Conservatism in its true sense, the saving of life, relief from pain, the curing of his patient, is his watchword. No one deplors the mutilation necessary in pelvic surgery more than the surgeon who does it. Gladly indeed would he welcome milder means of cure. Years of patient investigation, however, by the most renowned observers, have failed to reveal any remedy or method of cure which will successfully take the place of the scalpel in a certain class of pelvic diseases. In actual practice the specialist has in a large proportion of cases to do with the accumulated effects of disease, with secondary and advanced pathological conditions which call for radical and heroic treatment. Meeting with a cystic ovary, a malignant disease of the uterus, a fibroma or inflammatory suppurating disease of the tubes or ovary, what is to be done? Would I not insult the intelligence of this Association, with its ripe experience and mature judgment, if I were to say that hot-water douches, cotton or woollen tamponades, with applications of ichthyol, iodine, boroglyceride, etc., is all that is necessary? Would you not at once, and would not the critics have to join with you in declaring that such a course would be puerile, pernicious temporizing, worse than useless, criminally absurd? The conditions are such that if life is to be preserved and health restored the instruments of the surgeon must be brought into requisition. The true pelvic surgeon is not the enemy of womankind: he is her benefactor, her preserver. If what I have said regarding the necessity of operations and the discriminating care exercised by operators as a class be true, the public should be taught so, and thus impress upon them the absolute necessity for avoidance of the causes of pelvic diseases if they would forever keep from under the hands of the surgeon.

A study of pelvic diseases shows us that their causes in many

instances may be avoided and thus the disease be prevented. Again, we find that a mild primary disease may be cured, which, if allowed to pursue its course into secondary complications, may soon pass beyond the skill of either physician or surgeon. The laity should therefore be taught that when evidence of disease, however slight, appears in the pelvis, the safest and best thing to do is to at once consult a competent physician. Who among you is there who cannot call to mind cases resulting in death where early treatment might almost positively have produced a cure? Who cannot recount cases which had been temporized with and which came too late for an operation, which, if it had been performed earlier, would have been almost certainly successful?

If I am correct in my position, which I believe the facts justify me in maintaining, with existing conditions we need not expect to materially decrease the necessity for operating. While those who condemn because of the too frequent use of the knife may have some excuse for their position, in the main they are wrong and do not properly consider the conditions. They are governed more by sentiment than by a careful analysis of the facts. If the same energy were displayed in an endeavor to prevent diseases of the pelvis by proper initiatory treatment or by disseminating knowledge with regard to prevention that has been exercised in tirades against abdominal and pelvic surgeons, very much more of good would have resulted to humanity.

I do not wish to make any statements which facts will not justify, therefore I will not, because I have no definite statistics, claim that any particular percentage of diseases of the pelvis might be avoided; but I believe the majority originate from causes which it would be possible to avoid.

If this be the case, or even if it be somewhat exaggerated, are we carrying out the noble purposes of our profession in endeavoring to prevent as well as to cure disease, if we do not endeavor to instruct the laity as far as possible regarding those causes which are avoidable? To what extent this should be done, and by what methods can the best results be secured, I hope will be shown in the discussion which this paper may elicit. From the fact that Dr. Hall, who has already discussed the causes of pelvic diseases so ably at a former meeting of this Association, is to follow me with a paper on "The Potent Causes of Pelvic Inflammation," I will not occupy your time in a detailed statement of the various causes of pelvic diseases.

One of the principal causes of pelvic disease, and one which,

I am sorry to say, is becoming more common every day, is criminal abortion. This increase is not due alone to an increase in illicit intercourse. There is a sadder side to the subject. This practice, soul-destroying, productive of moral depravity and of physical disease and pain, has invaded the sanctity of the marital chamber, where, in some communities at least, it is increasing to an alarming extent. The young married woman who desires a long honeymoon resorts to it because her pleasures must not be interrupted by the honest fruit of her womb; the woman of society, whose time is too precious to give to the care of children; the woman who believes she has already a family as large as she can support and care for—all unblushingly resort to it and thus lay the foundation for disease which will eventually make life a burden. My observation shows me that while much of this is done with a careless indifference to results, much of it is done through ignorance of its sinfulness and of its physical danger. The impression that it is sinless during the first three months of gestation, and that during this same period it is devoid of danger, has considerable to do with its frequency.

I am not here to discuss the subject from a religious point of view, but it occurs to me that the same life is destroyed at one month as is destroyed at four or six months, and to say it is sinless would be as unreasonable as to say it would be sinless to take the life of a boy of 10, but wicked, villainous murder to take the life of a man of 50 years of age. With regard to danger, if there is a difference so far as the period of gestation is concerned, I believe there is more danger during the first three months than at any other time. The danger, however, at any period is not alone from hemorrhage or putrid infection, but as well by septicemia due to the absorption of microbes carried into the uterus on a filthy catheter or bougie.

Imperfect intercourse and the various methods used to prevent conception, if persisted in, are all productive of more or less harm. In this connection I cannot abstain from criticising the use of the intrauterine protector, the use of which is, I am told, encouraged by reputable practitioners to that extent that for a stated sum monthly they introduce it just after menstruation and remove it again prior to the next period. Such a practice cannot, it appears to me, eventually do otherwise than produce an endometritis which will entail a retinue of evils the gravity of which it is terrible to contemplate. The invasion of disease may be so insidious as not for a long time

to cause alarm; but these women will live to curse the man or woman through whose influence they were led to use them.

The large number of cases of pelvic disease coming under the care of every gynecologist which can be traced to a careless toilet during labor or the lying-in speaks, in a manner which cannot be misunderstood, of the necessity for the education of the laity upon the importance of asepsis in the lying-in room. A very important matter is one upon which the laity in general appear to have a wrong impression: that is the common belief that menorrhagias, metrorrhagias, and foul discharges are a necessary concomitant to the "change of life"—an opinion I have been astonished to find practitioners of years of experience to coincide in. You gentlemen know too well that thousands every year are deluded by this fallacy until all hope of relief is gone for a malignant disease of the uterus. I have not found as large a percentage of cases coming under my care in which I could trace the cause to gonorrhea as some others have. That it is a very potent cause, however, must be patent to every pelvic surgeon of experience. With regard to it the laity have very loose notions. Most of them regard it as a comparatively harmless disease. The worst feature in connection with it is that the suffering consequent upon it is not always confined to those who reap the reward of their own misdeeds. Faithful, loving wives are called upon to suffer for the misdeeds of recreant husbands.

I have often thought it would do much good if it were possible to impress the boy, in the midst of his revels in satiating his lust, with the fact that the price of the gratification of his passion consisted in the garnering up of pain, misery, sickness, and death for the woman who is to give her life to him at the marriage altar. Again have I thought, if it were possible to picture the life in store for that loving daughter, the anxious mother seeking to secure a highly respectable and wealthy marriage for her would be more solicitous about the moral character of the suitor than she is now about his family name and family treasures.

I earnestly hope that what I have said in my feeble way may help to silence the unjust critics of pelvic surgeons, as well as stimulate us all to greater activity in the prevention of pelvic diseases by enlightening the laity concerning their causes and how to avoid them.

515 PENN AVENUE.

PORRO'S OPERATION, AT OR NEAR THE FIFTH MONTH,
FOR SMALL FIBROID OF THE CERVIX ACCOMPANIED BY
HYDRAMNIOS AND TOTAL RETENTION OF URINE.¹

BY

EDWIN RICKETTS, M.D.,
Cincinnati, O.

I DESIRE, in as few words as practicable, to present for your consideration the following case with a few brief comments.

Mrs. M., white, aged 26, of short stature, mother of two children of 6 and 3 years of age respectively, with an abortion at eight weeks early in 1895, no specific history, and a patient of Drs. J. B. and C. M. Warwick, of Lucasville, Ohio. Drs. Warwick first saw her on January 10th, 1896, finding that she menstruated last in the first week of November, 1895. They also found the uterus enlarged and firmly bound down in the pelvis, especially to the left, and extremely tender to pressure. There was uterine hemorrhage in March, 1896, and again in the following month lasting for twenty-four hours. Her labors and abortion were prolonged and severe and accompanied by great suffering, while dilatation in all instances was accomplished with difficulty. From January 10th, 1896, she had no desire to urinate, nor could she void a drop of urine without the aid of the catheter.

On February 23d, 1896, she had severe labor pains lasting thirty-six hours and accompanied by slight hemorrhage; the right portion of the cervix being soft and the left hard, which condition was also present at the time of the operation.

During April and until May 22d, date of operation, she was very tender over the lower part of the abdomen, and at times had a temperature above 100°, with a pulse running from 90 to 100. I saw her in consultation at her home April 8th, 1896, when for the first time motion of the fetus was barely perceptible.

On May 22d Drs. Warwick, Kline, Sellards, and myself found her abdomen larger than it should be at full term, which was due to the hydramnios present. There was no difficulty in moving the fetus freely in the abdominal cavity, so thin was the uterine wall. It was decided unwise to delay surgical inter-

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

ference, and we therefore proceeded to perform a Porro under as strict asepsis as the circumstances would permit. After the abdomen was opened I passed my hand down into the pelvis, breaking up the pelvic adhesions. Upon the delivery of the fundus of the impregnated uterus through the abdominal incision, a rubber ligature was thrown around it low down and tight enough to control any hemorrhage which might occur. The fluid which escaped upon opening the uterus surpassed in amount any that I have seen delivered *per viam naturalem*.

After carefully sponging the parts the wire was tightly adjusted below the rubber ligature by means of the Koeberle clamp and the rubber ligature then removed. After the delivery of the placenta, which was not difficult, the fundus was amputated, leaving the ovaries and tubes intact. The abdominal wound was closed with silkworm-gut sutures, without stitching any tissue to the stump below the wire. No drainage tube was used. The extraperitoneal part of the stump was dressed with gauze moistened in glycerin and tincture of iron, the stump being held up by the double-hooded pin of Tait. The placenta and fetus were small for near five months' gestation, and the cord was tied in almost a hard knot—harder than any I have seen. The fetus had marked cyanosis and gasped but once. Recovery of the mother was satisfactory.

Of near four hundred Porros, all told, Dr. Robert P. Harris gives twenty-seven and three-quarters per cent of mothers and eighteen and a quarter per cent of children lost, the operations being performed in the following countries: Germany, Austria, England, Mexico, Switzerland, Scotland, Canada, United States, France, Egypt, Madeira, Australia, Japan, Sweden, Holland, India, and Belgium. Dr. Harris further states that in the first forty cases twenty-one were lost.

The principal and unusual features for consideration in this case are that there was no pain or desire to urinate, even at times when the bladder was abnormally distended, and the presence of hydramnios with so small a fibroid—not as large as a hulled walnut.

I find that this is the first reported Porro for a small fibroid of the cervix accompanied by hydramnios and loss of desire and ability to urinate.

Herman reports, July 24th, 1894, in the London *Lancet*, a Cesarean section for fibroid tumor causing retention of urine and obstruction of labor; hydramnios was also present; mother and child lost.

TRANSACTIONS OF THE CINCINNATI OBSTETRICAL SOCIETY.

Meeting of May 14th, 1896.

The President, DR. RUFUS B. HALL, in the Chair.

DR. EDWIN RICKETTS reported a

CASE OF APPENDICITIS

in a girl of 13, operated upon between the attacks; operation and recovery uneventful.

DRS. JOHNSTONE, WENNING, and REED presented papers on

DERMOID TUMORS OF THE OVARY.

DR. JOHNSTONE spoke of

Their Etiology and Pathology.

In 1892-93 I expressed some peculiar views before the Academy, as well as this Society, as to the nature of dermoids of the ovary. There are two great classes of dermoids: those found near the median raphe and in the various cavities near it, and those found in the ovary. They are two separate and distinct classes. The first probably originate from malformation of the individual itself; that is, in the union in the middle line of its own fetal membranes little islands of tissue are cut off from the rest of the structure, left buried in some of these clefts, and give trouble in after-life. Such are the tumors that we find about the orbit, about the nose, the fauces and pharynx generally, as well as in the branchial clefts. Those of the thyroid, mediastinum, lungs, liver, and general peritoneal cavity probably are due to the same cause. The most common illustrations of this class of dermoids that we see are cysts of the vagina, which undoubtedly are persistent remnants of the various tubes which at one time in fetal life opened into the cloaca. For some reason these tubes have failed to be obliterated; cysts of the vagina and about the bladder wall are the result. Fortunately, though, they are rare. In my own experience I have only seen two, and in the general literature of the subject they are only now and then mentioned. But dermoids of the ovary are common. Olshausen places them at four per cent of all ovarian tumors. The frequency with which they are met, the queer structures that they contain, as many of you know, put some of us to studying their ultimate nature along in 1892-93, and we came to the conclusion that this special form of dermoid is a true parthenogenesis—that is, that the ovum itself is at fault, and that, instead of losing one of its polar cells, it retains

the male element from some pathological reason and goes on in a weak way in an effort to form the human body. There is not a tissue in the body that has not been found within these dermoids. We have all found skin, hair, sebaceous matter, teeth, bones, scattered about in an irregular kind of way, and now and then whole organs have been discovered. As you all may remember, I showed to this body a fairly well-formed heart with mitral valve, as well as half the tongue, in separate specimens. Besides that, the trachea and the eye have been found. Breasts and nipples are very common. In fact, every structure within the human body has been made out; even a sort of cloaca, like that of the fetus, has frequently been described. In the specimen in which I found the tongue there were also teeth and hair, so well arranged that it could not have been haphazard; it must have been an attempt to form a head. The first post-mortem I made on a dermoid of the ovary contained a well-formed upper jaw, with an incisor, canine, and bicuspid placed in their regular order. So there can be no possibility of a mistake that these dermoids of the ovary form structures in a far more systematic way than do those of the median raphe, and that they certainly must be controlled by a far more definite law. Dermoids of the orbit, while they occasionally produce a tooth, are very close indeed to the structures that produce teeth. But no one has described an organ like the eye, or the trachea, or the heart well formed in any of these median tumors. Bland Sutton cleared the way for a distinct understanding of dermoids of the ovary when he proved that they were never found in any other part of the pelvis than that where Graafian follicles are formed. I followed up the subject, and after microscopic investigation which proved to me that all three layers, epiblast, hypoblast, and mesoblast, were present, I read a paper before the American Gynecological Society in Philadelphia, in 1893, on "The Etiology of Dermoids of the Ovary and Testicle." You will find this paper on page 301 of the *Transactions of the American Gynecological Society*, vol. xviii., for 1893, and in the *Annals of Gynecology and Obstetrics* for January, 1894. In that paper I took the ground that if it were a doubling-in of the mother's own membranes we would expect to find dermoids in the hilum of the ovary—which you all know contains the remnants of the Wolffian body—and that such a thing as Mr. Sutton had proven was almost unheard of; so that by this means we have the interposition of the whole life history of an organ between the fetal membranes and the space where the dermoid is found, which to me was a positive proof that they were not the remnants of the mother's own fetal life. You know the ovary springs from one side of the Wolffian body and the kidney from the other, but the kidney cuts loose from the Wolffian body and retains its original site, whereas the ovary descends into the pelvis, carrying the remnants of the Wolffian body with it. Dermoids of the kidney have been reported. In fact, one has recently been exhibited by one of our own general surgeons. I

am inclined to believe that these dermoids of the kidney may belong to the same class as those of the ovary, for in the formation of the two organs so close together it would be a very easy matter for a piece of either the ovary or testicle to be switched over within the circumference of the kidney, and, if left there, you know trouble would be sure to follow.

I am glad to tell you to-night that this view of this method of the production of these organs is being taken up across the water. The best lecture I have seen on the subject of dermoids lately you will find in the *Medical News* of April 18th of this year, by Joseph McFarland, of the University of Pennsylvania, and he there calls special attention to an article by Wilms which takes exactly the same ground that I did in this paper, and follows out in a very systematic way exactly the same argument that I gave you here in 1892 and read in Philadelphia in 1893. I doubt if Wilms has ever seen my paper, as he is assistant to the chair of pathology in Leipzig. I have not had time to procure his paper, as it is only a few days since that I saw this lecture of McFarland's. But in a recent letter from McFarland, he tells me that the paper can be found on page 289 of volume lv. of the *German Archives of Clinical Medicine*, in the Festschrift of Prof. F. A. von Zenker, Leipzig, 1895.

No matter how it occurred, it is a confirmation of the view worked out here in Cincinnati. To state it once more clearly, it is that the same pathological process that starts the hypertrophy of the ovary which results in ovarian tumors, catching many of the follicles in different grades of development, finds some of the ova contained in these follicles that have not lost the polar cell and are still adherent to the Graafian follicle. This hypertrophic growth arrests the development of the ovum, holds it fast to the cyst wall, and does not allow the little cell to follow out its physiological law and get rid of one element. This being retained and receiving food and nourishment, in an irregular way attempts to follow out its own natural history, and a dermoid is the result. This is the only hypothesis on which we can explain the fact that some cysts contain dermoid debris and others are nothing but simple glandular cysts. The reason for the difference is that in some the ova themselves have lost this polar cell, and, having but one sex, must necessarily die. In others the ova have become destroyed by the bursting of trabeculae, and it is only here and there that we find one that has persisted; so that it is not at all surprising to find in multilocular cysts one or two that are undoubtedly dermoid, while the rest are nothing more than ordinary ovarian cysts. So much for the etiology of the subject.

I cannot approach its pathology without entrenching somewhat on some of the members who are to follow. The slow growth of these tumors is the cause of many of the degenerations that we see within them. Calcareous deposits, fatty degenerations, and all the retrograde changes which accompany weakened tissue are common conditions in dermoids. Because of these retrograde changes, the sebaceous matter, fluid from

sweat glands, hair, and oil which these cysts contain, it is no wonder they so easily get infected and that suppurations of the dermoid are far more common than of any other class of ovarian tumors. You can all see how much less power these dermoids have to prevent infection than the ordinary richly vascular ovarian cyst. They are not so apt to be invaded by carcinoma and sarcoma as are other glandular tumors, though I believe a few cases have been reported in very old tumors. There was a time when these tumors were thought to be benign, simply because women lived so long and still carried them. But my experience has taught me that they are of the most dangerous tumors that a woman can have. The vast majority of burst tumors and tumors with peritonitis around them that I have come in contact with for the last few years have been dermoids, and my advice to any one who knows that she has a dermoid would be to get it out as soon as possible; for, while they do not give the pressure symptoms, because they do not grow as large as ordinary tumors, still, by a tendency to degeneration and the extremely thin cysts that many of them have, left to themselves they are among the most dangerous tumors that we have to deal with.

DR. WENNING presented

Their Clinical History.

The term dermoid is applied to new growths which contain the constituents of integument or skin in more or less completeness. According to Lebert they are either new formations or spring from cells pre-existing in certain cavities which undergo these neoplastic changes. As the anatomical similarity proceeds from within outward, sacs are formed whose inner surfaces are more or less identical with the skin and its constituents.

Dermoids may be found in other parts of the body, but occur most frequently in the ovary. Thus, out of one hundred and eighty-eight cases collected by Lebert, one hundred and twenty-nine were situated in this locality. This ovarian preponderance is probably explained by the fact that the ovum furnishes all the cells which in their combination form the blastodermic membrane. From its subdivisions are formed the various layers which in their entirety constitute the fetal body, isolated parts of which are also represented in the dermoid.

The following cutaneous appendages have been found in ovarian dermoids: hair, sebaceous glands, sweat glands, teeth, mammæ, horn, nail, bone, unstriped muscular fibre, and tissue histologically identical with brain matter (Sutton). A characteristic feature is the want of uniformity in their construction. They may be single or (rarely) double. They may be very small or very large—seldom, however, attaining a size larger than a man's head. Sometimes the cyst wall is very thick, at other times very thin. The cutaneous lining may include the whole inner surface of the cavity, or it may be scattered in

patches on the surface of the inner membrane. The cutaneous appendages, such as hair, bone, teeth, etc., may be present in great profusion or they may be small and few in number. The hairs, for instance, may be very small, thin, and short, and then again very long and thick, varying from a few inches to several feet in length. Sometimes these structures undergo rapid multiplication; at other times there are evidences of atrophy and even disappearance of pre-existing tissues. In short, there is the greatest disorder in the construction of these new growths. It seems as if there was an absence of design on the part of Nature in building up a structure; she simply took the materials at hand and jolted them together at haphazard. Nor are the contents of dermoids of a uniform nature. For the most part in the centre of a dermoid is a thick, smeary, oily mass resembling vernix caseosa, and, like it, containing fat and epidermis cells. This fat is fluid at first, but thickens in growing cold. It is usually coherent, but sometimes forms round balls or globules.

Bones and teeth are not so constantly present as hairs and their follicles, nevertheless they may occasionally be found in great quantities. As many as three hundred teeth have been found in one dermoid. They may be set in bony plates with more or less regularity, or lie loosely embedded in the alveoli. They resemble somewhat in shape the various forms of teeth—incisors, canine, and molars—but are not perfectly regular. Portions of bone, more or less regular in shape, are present, but a perfectly formed long bone—as, *e.g.*, the shaft of a femur—has never been found. Whilst unstriped muscular fibre has been found, the striated variety has never been described. Nerve matter, however, apparently belonging to the gray portion of the central nervous system, is occasionally found.

Dermoids are single, as a rule, but occasionally one may be found in each ovary. These growths do not proliferate in the same manner as the ordinary proligerous cyst, but may be associated with other neoplasms which may be either benign or malignant. Colloid and dermoid cysts are not infrequently associated together. Possibly the dermoid in these instances causes an irritation of the neighboring structures—as, for example, in the stroma of the ovary—in consequence of which a new growth of another kind is called into existence. The simultaneous occurrence of dermoids in various parts of the body raises the question of metastasis. Dermoids have been found in the peritoneum, between the folds of the mesentery, etc. Hairs and other structures have been found free in the cavity of the peritoneum, evidently the result of rupture and partial absorption of the cyst. But, aside from this, dermoids have been found simultaneously in localities at a distance from the site of the original growth. This is an evidence that not all of these cases can be ascribed to separation from the parent tumor, but some must be attributed to metastasis. In this connection Olshausen says: "If we remember that peritoneal metastases have been repeatedly observed in proliferating cysto-

mata, and that they occur very frequently in papillary cystomata, we shall not be astonished at their occurrence in dermoids and we will no longer doubt the authenticity of the reported cases."

Dermoids occur at all ages from childhood to advanced old age. The fact that they have been observed in very young children is an evidence that their origin must reach back to fetal life. Some authorities even maintain that all dermoids are congenital. Pigné found in eighteen cases of dermoids in children the following ages: three premature infants, four still-born infants at full term, six under 2 years, and five under 12 years of age. Bland Sutton, however, says: "I have devoted much labor to the examination of fetal ovaries, but have never succeeded in detecting an ovarian dermoid at birth, neither can I refer the reader to a trustworthy case." It cannot be denied, however, that of all the forms of ovarian tumor dermoids constitute the most frequent variety in very young children. At puberty and during the years immediately thereafter multilocular ovarian cysts are more likely to occur, and in adult life multilocular cystomata are the rule. These facts borne in mind, they may serve as a valuable, though by no means absolute, hint for diagnosis in doubtful cases.

There can be no question that puberty exerts some influence on the development of dermoid tumors. Simultaneously with the more rapid unfolding of the genital organs in the female at this period, the hitherto perhaps dormant condition of the ovary is suddenly awakened to action and the tendency to proliferation of cells over and above the normal called forth. The observations of authors, however, are somewhat at variance as to the respective rôles played by the ovary and other genital organs in these neoplastic changes. According to some there is an inverse ratio between them; according to others they occur in direct proportion to each other. Thus, A. W. Freund has not infrequently found the genitalia of an infantile type or otherwise imperfectly developed in cases of dermoid cysts. In these instances the ovarian tumor seemed to hinder the proper development of the external genitals. Conversely, however, the opposite relation, though not so frequently, has also been observed. Keith, Schwarz, Kussmaul, and others have observed instances of precocious development of the sexual organs in young children with dermoids. The activity of the ovary appeared to stimulate the growth of the pubes, vulva, breasts, etc.

Dermoids are usually small and may remain dormant in the body and unrecognized for many years, sometimes having been found only after death occurred from other causes. They may, however, increase suddenly when either the ovary or other contiguous structures are subject to some irritation. The several physiological disturbances in the female organism seem to foster their rapid development. The three most potent factors in these changes are puberty, marriage, and pregnancy. We have already noted the influence of puberty. The marital

relations undoubtedly offer sufficient opportunity for mechanical irritation and consequent stimulation to any tendency to neoplastic formation. There can also be no question that pregnancy and parturition must exert an unfavorable influence on these growths, partly from physiological, partly from pathological causes. The hypertrophic changes in the uterus and the adnexa during pregnancy, and the tendency to inflammatory changes in the puerperal period, all tend to stimulate the growth of dermoid and other tumors. But not alone pregnancy and parturition, any acute inflammatory attack in the pelvic organs may suddenly increase the fluid contents of these cysts and enlarge their size.

Whilst these conditions may influence growths of all kinds when belonging to the uterus or ovary, there are some distinguishing features which, although not of sufficient importance to be diagnostic, nevertheless are more peculiar to dermoid than other cysts. They are: slow growth, increased tendency to inflammation, and greater tendency to torsion of the pedicle. Inflammation may extend to the vicinity, causing peritonitis, or it may be confined to the cyst wall itself. In the latter instance it is frequently followed by suppuration and gangrene, which may terminate in rupture into other organs in the vicinity. These ruptures occur in the following order of frequency: rectum, vagina, bladder, and (rarely) into the abdominal cavity. In the last instance it is rapidly fatal on account of the development of an acute general peritonitis. A rupture into the bladder is also very unfavorable on account of the small calibre of the urethra not permitting the discharge of foreign bodies except with great difficulty. Rupture into the rectum, and especially into the vagina, is much more favorable on account of the greater facility of expulsion and hence shorter period of danger from retention or absorption.

It may not be out of place here to call attention to the possibility of error of diagnosis with extrauterine pregnancy. When portions of bone, teeth, hair, etc., which might well simulate parts of a disintegrating fetus, are extruded from one of the three cavities mentioned above, the confounding of a ruptured dermoid tumor with an extraperitoneal rupture of an extrauterine pregnancy is quite possible, unless the clinical history is properly studied in the individual case under consideration.

When agglutination of the sac to a neighboring cavity has occurred a fistula may be established, which exists for years owing to the inability of the more solid portions of the tumor to be discharged except by enlarging the opening artificially. This tendency to suppuration is increased by the facility with which micro-organisms are introduced from adjacent cavities—as, for instance, the rectum—particularly when the dividing wall has become very much thinned. It is also believed by some authorities that the fluid in a dermoid cyst is a more suitable culture fluid for the development of infectious elements than the colloid material of an ordinary ovarian cystoma.

The clinical symptoms of suppuration and gangrene in der-

moids do not differ from those following infection elsewhere—viz., chills, fever, and exhaustion.

Intestinal catarrh is a frequent concomitant and may prove fatal, but death usually results from exhaustion, unless evacuation of the cyst speedily occurs either spontaneously or artificially. If rupture occurs spontaneously into the vagina or rectum recovery may take place. Rupture into the bladder is less favorable, as has already been stated, on account of the narrowness of the urethra for the purpose of discharging the contents of the cyst. Rupture into the abdominal cavity is uniformly fatal, unless peritoneal adhesions have previously formed and an external fistula is then established, shutting off the peritoneum.

The proper treatment in every instance where a dermoid is suspected should be early operation, to prevent any or all of the many complications that threaten the health and life of the individual during the presence of a dermoid cyst.

DR. REED discussed

Their Diagnosis.

In approaching the discussion of this important question I wish to emphasize my disapproval of the modern tendency to ignore careful diagnostic study. While I recognize the great value to the profession and to humanity of Mr. Tait's axiom which established the principle of exploratory incision as a legitimate diagnostic measure, I must, however, protest against the misinterpretation and misapplication of his law. That exploratory incision should take the place of any, to say nothing of all, legitimate means of arriving at a diagnosis, was not implied by Mr. Tait's expression and was furthest removed from his object and purpose. On the contrary, I have heard him expostulate emphatically, not to say vehemently, against the unmerited responsibility which was and is even yet being thrown upon his shoulders by those who either do not know how, or, knowing how, do not take the trouble to make a diagnosis, and who would seek to justify their recklessness by saying: "Oh, Tait says if you do not know what is the matter, cut in and find out!" The fact is that Mr. Tait, both in precept and practice, places about this procedure the most definite limitations. It is not to be invoked while other and less formidable resources are available.

And now, having emphasized the importance of diagnostic study as a general principle, I am at once confronted with conditions which, quite as much as any other, emphasize the very futility of that which I have endeavored to establish. The accurate differential diagnosis of dermoid cysts of the ovaries before operation is of comparatively little importance. The fact that they are dermoids does not in the least modify their general physical features, does not in the least change their anatomical relations, does not in the least modify the necessity for their removal, and does not in the least modify the *principles*

involved in the technique of operation. There is a tumor, painful, growing, that is interfering with the patient's health—remove it, and remove it at once, without reference to its histogenesis or to the character of its contents. This, I believe, is the settled conviction of the profession, and one that is founded on knowledge and sound reason.

To begin with, the diagnosis of dermoids—their differential diagnosis—is very difficult. Olshausen, indeed, goes to the extent of saying that the exact diagnosis of these cysts is impossible until after operation, or until after their contents have become visible as the result of puncture or of spontaneous perforation. As a rule these tumors, being for the most part expressions of aberrant development, occur in the younger class of subjects. They are relatively smaller than are the other varieties of ovarian cysts, but in point of size bear more resemblance to uterine fibromata, with which, on superficial examination, they seem to have other physical features in common. They develop slowly, as do fibroids, generally have a similarly limited arc of mobility, and, as a rule, seem to be almost if not quite as hard. On external palpation or by bimanual manipulation they are sometimes multinodular, in this particular still sustaining a resemblance to fibroids. Fibroid of the ovary (a very rare occurrence) may add to the confusion, but in this condition the arc of mobility is generally greater than in dermoids—not but that the pedicle in each instance is practically the same in the early stages, but because dermoids ordinarily become fixed in their position by inflammatory adhesions.

The shape of the tumor, to which I have already made some allusion, is of negative diagnostic value. It may be multinodular, and so may an ordinary multilocular cyst or a soft fibroid. It may be—although rarely—spherical, and so may either a mono- or an oligocyst.

Fluctuation is also of questionable value. It may be said that this symptom is never present in dermoids of the pure variety, but it may be present in those cases in which colloidal cysts are interspersed with those containing epithelial products. In these cases it is the colloidal cyst that affords the fluctuation, which even then is modified by the fluidity of the contents of the cyst itself, by the thickness of the abdominal wall, and by the rigidity of the abdominal muscles—a condition often induced by the tenderness of the growth and its adjacent structures. While on the question of fluctuation I want to say a word about the "doughy feel" of these tumors. This is a favorite expression with text-book writers, but I doubt if a single one of them ever detected this quality in a dermoid of the ovary before operation. It has occurred to me that this expression has crept into the literature as a sort of theoretical deduction from the fact that this so-called "doughy feel" does develop in these tumors after they have been cut out and have had time to cool. At the temperature of the body, however, the sebaceous element in the cyst contents remains at a consistence which, while it may not give fluctuation, will not pit upon

pressure—a condition necessary to make it feel like a bladder of putty.

Pain is properly recognized as one of the leading symptoms of dermoids. It is true that in other varieties of ovarian cysts pain is either absent in the earlier stages of development, or, if present, is generally definitely localized and very slight. When pain does exist in the ordinary cysts it is generally in the later stages of development, when it is induced either by pressure or by the rupture of a small cyst. The only serious point of confusion in estimating the value of pain as a symptom of dermoids is the fact that similarly small and similarly located fibroids may also give rise to pain. There is, however, generally a difference in the quality and character of the pain. Thus, in dermoids the pain is generally located in the tumor itself; in fibroids it is generally of a reflex character, being expressed down the legs, or as a sacralgia, or in rectal and bladder distress. This difference depends in an important measure upon the fact that the pain in dermoids depends upon inflammation of either the tumor itself or of both the tumor and the adjacent structures, while the pain in fibroids—except fibrocysts—is ordinarily due to pressure.

Dermoids are notoriously of slow growth. They have occurred in my practice having a history of a year and of ten years. They are often irregular in growth—that is, they develop to a certain point, become stationary for a time, and again become active.

Sir Spencer Wells stated that he had made a diagnosis of dermoid by detecting the osseous elements contained in the cyst. When Sir Spencer said this but little was known about ectopic pregnancy, with which condition, in certain instances, it might be easy to confuse a dermoid of the ovary which had become bound down by general adhesions. It may not be amiss to give a little thought to the natural history of the two conditions. It is upon a review of a case in the light of such natural history that the differential diagnosis can be most easily made—indeed, it is the only way it can be made. The points of difference, barring the physical features, are so distinct that they do not call for recapitulation in this connection.

I cannot close this résumé of the symptomatology of dermoids of the ovary without speaking of certain incidental clinical features which are confusing. Dermoids generally become the nidus for a more or less extensive pelvic inflammation. This generally, sooner or later, results in more or less chronic engorgement of the uterus. A tendency to menorrhagia and metrorrhagia is speedily established. This, in the presence of a small fixed tumor at the side of the uterus, establishes a confusing probability that the neoplasm is a fibroid. I had a case in which this difficulty was experienced. There is, as a rule, less loss of flesh in dermoids than in the ordinary varieties of ovarian cyst. There is, however, as a rule, more of constitutional disturbance in dermoids than in the other varieties, owing to their inflammatory tendency and to their disposition to suppu-

first made here in Cincinnati. McFarland missed my paper. He is thoroughly familiar with all German literature, and could not write it out as his own theory. The only misfortune is, we antedated him about three years.

There are two kinds of dermoids. My reason for believing this is twofold: First, the characteristics of the dermoids themselves. Dermoids of the ovary form clear, clean-cut, undoubted organs. The eye has been found, the larynx has been found, and I have found the tongue and the heart. That was in an ovarian dermoid removed from a single girl. The one that contained the tongue was also removed from a girl.

DR. E. GUSTAV ZINKE.—I would like to ask whether Dr. Johnstone ascertained whether in this patient's case there was any possibility of fecundation.

DR. JOHNSTONE.—I am glad you asked the question. The hymen was so small, when I attempted to examine her, you could not have introduced the point of a pencil through it. She was a young girl, about 22 years old, a devout Roman Catholic. The other was in a young lady of the very best of people in Kentucky. It is true the hymen had been broken down, but it was broken down by one of the leading surgeons of this city, who examined the case some two years previously and pronounced it fibroid. There could be no question of unchastity in these cases.

DR. EDWIN RICKETTS.—In the cases of dermoids he has seen, was the doctor able to make the diagnosis previous to opening the abdomen?

DR. JOHNSTONE.—I have operated upon six dermoids. Out of the six I have never successfully diagnosticated but one case, that in which the tongue was found. The diagnosis was made on the points that have been mentioned here. It had first been diagnosticated a fibroid and let go on a number of years. Just above the tongue, in the tumor, was a tooth sticking in a little bony plate, and above that an elf-lock some six feet long—beautiful, light sandy hair. The largest dermoid I ever found weighed thirty pounds. It was found post mortem. The lady was over 60 and had been tapped several times. She died from dysentery. I found a fairly well-formed upper jaw. The bicuspid had a little cavity in it, which appeared as if just prepared to be filled.

DR. ZINKE.—The theory entertained by Dr. Johnstone has been before the Society for years, and I believe I was one who sided with it, but I do not now believe parthenogenesis is possible in the human ovum. That is merely a theory, and is not sustained by anybody who is familiar with biology. It is physiologically, biologically impossible. As to the dermoid cyst in the Irish girl—and for her virtuous disposition I have a high regard—if she had a dermoid cyst and it originated in that way, there was a spermatozoon there, even though there may have been an intact hymen.

DR. W. H. WENNING.—The main interest centres upon the

diagnosis. In the majority of instances the diagnosis has not been made, and I do not think it can be made; but there are certain features which might lead us to suspect the condition, and I have mentioned them in my paper. One of the gentlemen said these growths were benign and not of much importance, and consequently would not be classed among the dangerous formations. That may be true in a certain sense. A dermoid cyst may be dormant for a good many years. The patient comes to us for relief, either from the growth of the tumor, or from pain, or on account of inflammatory conditions. The application for relief is evidence there is danger and an operation ought to be undertaken.

DR. MITCHELL.—Any tumor which gives rise to pain or trouble should be operated upon, but the fact that a tumor is a dermoid does not make it more dangerous.

DR. WENNING.—That is true. The dermoids *per se* may not be more dangerous than other tumors.

DR. C. A. L. REED.—Dr. Ricketts said he was surprised that we spoke of dermoids as small tumors. The words "large" and "small," in discussing the differential diagnosis, are used exclusively in a relative sense. The case to which he referred was a case in point. The woman, having gone through a number of years, had a tumor weighing about twelve pounds. A woman going through the same period with a monocyst of the ovary or an ordinary multilocular cyst would have had a tumor weighing probably forty pounds, and therefore the dermoid cyst would be relatively small. That is a totally insignificant fact when you come to question the previous duration of the tumor and determine its relative size compared with a monolocular or multilocular cyst, had it persisted the same length of time. As to the emaciation, that is, too, a relative term. No patient has a neoplasm for any considerable length of time without some loss of flesh. No patient can have a constant, nagging pain for a number of years without some loss of flesh. But there is less emaciation in cases of dermoid than in cases of multilocular or monocysts. The essential points of difference were enumerated in my paper, and I believe its careful perusal will elicit that fact.

Meeting of June 23d, 1896.

The President, RUFUS B. HALL, M.D., in the Chair.

DR. REED presented a

LARGE EXTRAPERITONEAL PAROVARIAN CYST.

This is a typical parovarian cyst, presenting some characteristics that are peculiar. It occurred in a woman 22 years of age, and was two years in developing, extending as high as the ensiform cartilage. At the time of the examination the most significant fact was the absence of gastric and intestinal reso-

nance at the upper part of the tumor. Ordinarily the intestines are crowded to the superior part of the abdomen and retained there by the distension of the abdomen below, or they are pushed to the opposite side to that in which the tumor developed. Here there was an absence of this resonance which I could not then explain. Cutting down through the fascia, I kept lifting up little filaments of tissue which I supposed were peritoneum. I found the tumor had, apparently, universal adhesions. Its removal was simply an act of enucleation, and I did not have to tie a single vessel. When I had entirely removed the tumor I discovered I had not yet entered the abdominal cavity. In other words, this tumor developed in the wall and was removed without invasion of the abdominal cavity proper. I say without invasion of the abdominal cavity proper, but there was an accidental opening, and it was very fortunate for me there was. A small, strictly ovarian tumor was discovered in this way, and it gave me much more trouble in its removal.

DR. REAMY.—How far down did the tumor extend?

DR. REED.—To the bladder.

DR. REAMY.—Was it not one of those rare cysts from the urachus?

DR. REED.—I don't think it was, for several reasons.

DR. PALMER.—To what part of the broad ligament was this attached?

DR. REED.—It was as an egg in its nest.

DR. PALMER.—A large Wolffian cyst?

DR. REED.—Yes, and it seemed to come from the right side. A cyst of the urachus would have left a pedicle to the bladder, but this had no such pedicle.

PRIMARY CORPOREAL CARCINOMA UTERI; HYSTERECTOMY;
RECOVERY.

DR. REED.—Here is a very interesting specimen that I removed in Dayton last week from a lady, æt. 57 or 58 years, who had passed the menopause some time before and had begun flooding. The patient submitted to curetting and her physician made the diagnosis of malignant disease. This was verified upon operation. Here, you will see, is a perfectly healthy, narrow cervix, with the malignant disease wholly in the body of the uterus.

DR. PALMER.—Was the patient benefited by the curetting?

DR. REED.—She had an interval of relief.

SMALL DIFFUSE UTERINE MYOMA; HYSTERECTOMY;
RECOVERY.

DR. REED.—Here is one of the most important specimens I have, when all the facts are taken into consideration. This was the case of a woman, æt. 34 years, who by a previous marriage was presumed to have had an attack of gonorrhea that resulted in a diffuse cellulitis, and when she came to me two weeks ago

I found a large cellular abscess. This I opened along Poupert's ligament, after having made a preliminary exploratory incision in the median line and after having discovered the ovaries and tubes were free. The patient recovered from this operation, but came back later with an involvement of the appendages, and from this she recovered only to return with a profuse menorrhagia. I curetted her several times and finally removed this uterus. You will see it is a typical diffuse myoma.

CYSTIC DEGENERATION OF OVARIES ; NYMPHOMANIA ;
VAGINAL HYSTERECTOMY ; RECOVERY.

DR. REED.—Here is an interesting specimen, removed only a few days ago. This case was most pronouncedly neurotic and erotic, so much so that the patient's reason was practically dethroned, and that was really the primary reason for bringing her to me. I found a retroflexed uterus with fixation, which I couldn't reduce. I discovered large ovaries by palpation and resolved upon complete removal by the vaginal route, which I did.

DR. REAMY.—How long since the operation ?

DR. REED.—Three days.

DR. REAMY.—You do not know the influence upon the mental state ?

DR. REED.—No ; but the girl always speaks of the thrill she would feel when touched about the abdominal cavity, and speaks of her condition in the past tense.

DR. HALL.—I would like to ask Dr. Reed if he used clamps or ligatures.

DR. REED.—I used the clamps in this case. I generally, on the first side I liberate, put on a clamp, and on the other side put on a ligature, because I can do it conveniently.

FIBROMA OF OVARY.

DR. RUFUS B. HALL.—This very rare specimen was removed a few days ago from a young woman æt. 27 years. I made a diagnosis of dermoid cyst and urged an operation. The patient had had menstrual irregularities for some months. Before I had this specimen examined I supposed it was sarcomatous, but Dr. Oliver, after a microscopical examination, says it is a typical fibroma.

This is another interesting specimen, a

SOFT MYOMA OF THE UTERUS,

removed from a woman the mother of one child about 4 years of age. It did not produce a single clinical symptom ordinarily furnished by such tumors. It weighed about fourteen pounds. The vaginal examination revealed the pelvic cavity practically filled and the cervix obliterated except as a dimple. There was no cervix protruding into the vagina, and that led me to believe it was a fibroid or malignant tumor, and an exploration was advised and made a few days ago. This is the

anterior part, and you will observe the peritoneum is denuded up four or five inches high. The bladder covered the anterior part of the tumor and made the operation so much the more difficult. I could not get at the uterine artery easily, because the tumor occupied the pelvic cavity. There was an unusual amount of dissection necessary to get at the back part of the growth. An interesting feature is that a young woman, 28 years of age, should develop a tumor of this size in a couple of years.

DR. REAMY.—The parovarian cyst is a beautiful specimen. I have seen a single cyst develop in the urachus and I have seen a solid tumor of the urachus. In the solid tumor of the urachus the attachment went down to the bladder and was attached to the abdominal wall for two or three inches above the bladder.

But what I wished to say was to answer an inquiry of the President as to whether in vaginal hysterectomy I use clamps or ligatures. For a long time I used ligature, and I have sometimes advocated it as preferable, but for the last few years I have sometimes used one and sometimes the other method. But now I use the clamps altogether, and I like them for the following reasons: I prefer the clamp forceps, first, because they can be applied to any point to which you can apply a ligature; second, you can apply a clamp in one-fifth of the time required for applying a ligature; third, the clamp controls hemorrhage just as well as the ligature; fourth, properly applied, it is quite as harmless as the ligature; fifth, you can take the clamp off with no discomfort at all. The facility with which you can use the clamp is greatly increased if you adopt the method of Péan, as carried out by his pupils, Ségond, Jacobs, and Championnière—viz., making lateral cervical incisions, folding the anterior and posterior flaps out of the way, and then at once clamping the uterine arteries right and left. Then he denudes the cervix and amputates it.

DR. REED.—What position is the patient in?

DR. REAMY.—The lithotomy position.

DR. REED.—Is that something new?

DR. REAMY.—No, not new, but I got some new ideas in seeing the method by Ségond recently.

DR. REED.—I have distinct recollection of doing it six years ago.

DR. HALL.—How does Ségond keep the intestines and omentum out of the field of operation?

DR. REAMY.—There is usually no such complication. The whole field of operation is in view.

DR. HALL.—But how does he prevent it when the patient is in bed?

DR. REAMY.—There is no trouble of that kind. You know the hips are slightly elevated. Gauze is carefully packed around the clamps. I find no difficulty.

DR. PALMER.—I made this operation, for procidentia, on an old lady. I used five clamps and there was no trouble.

DR. HALL.—While the profession is all interested in vaginal hysterectomy, and the clamp is almost the universal method of controlling the hemorrhage, I am convinced that in the large majority of cases the time is near at hand when the clamp will be supplanted by the ligature in vaginal hysterectomy. I say this knowing I will have opposition to my statement, but I say it believing it is true. The ligature method is on sound surgical principles and it affords means of avoiding certain accidents. It is not an impossible operation in the majority of cases in which a vaginal hysterectomy is indicated at all. It can be done in a reasonable time. There are certain accidents bound to come to every operator with the clamp that will not happen with the ligature. If we can save only one more life with the ligature in fifty or a hundred, it is bound to win in time. The fact that a mere novice can do an operation with the clamp is no argument in its favor, and it does not follow that we should use the clamp instead of the ligature. Anybody can do a clamp operation in five to fifteen minutes, but he then has not given the patient the best chance. In using the ligature we should not take large bites of tissue in its grasp; we should take only such portions of tissue as we can constrict well. By placing six or a dozen ligatures on the side we will have sufficient control over the bleeding. Personally, in the last thirty or thirty-five hysterectomies I have made, I have not used clamps in a single instance; only in one, in which there was some oozing, I placed a catch forceps and allowed it to remain a few hours.

DR. REAMY.—Haven't you found, in some of these cases where you have used the ligature, you would have an oozing where you could not see any place to tie?

DR. HALL.—Very rarely. That will not occur if you tie the tissues before you divide them. But I am led to believe those who have bleeding are not careful enough. They get too wide a bite.

The real reason the ligature will supplant the clamp is this: With the clamp the peritoneal cavity cannot be closed with sutures. In the ligature method the peritoneal cavity can be as accurately closed as in a section, and if you bring peritoneum to peritoneum, above the ligature, by the time suppuration takes place you simply have a suppurating wound in the vagina. If we could get all the facts of fatal cases that have occurred from a coil of intestine coming down and becoming entangled with the gauze packing, plus all the patients dying from septic infection due to necrotic tissue, we would have a good many more cases of death from these causes than have been tabulated. This can be avoided by the use of the ligature.

DR. M. A. TATE read a paper on

PUDENDAL HEMATOCELE.

Endeavoring to study the subject of thrombotic conditions of the vulva and vagina, I was very forcibly impressed with

the scarcity of literature and the concise manner in which our text books deal with this important affection. Not only do our late works treat pudendal hematocele in a cursory manner, but I have not been able to find over three papers which dealt with this condition to any extent. Scattered through journals upon gynecology and obstetrics in this country and abroad I find here and there the history of a case reported, but very little is said as to its pathology. It is spoken of as pudendal hematocele, hematoma, thrombus, and varicose tumor. It seems that pudendal hematocele was never mentioned before 1554, and it remained for Rueff, of Zurich, to draw attention to it. In 1734 Kronauer, of Basel, reported a case, and nearly a hundred years elapsed when Deneux in 1830 again reported cases and spoke of the treatment. From 1830 to the present time cases have been reported, but with no regularity, and it is next to impossible to gather reliable statistics as to its pathology and frequency.

Definition.—Pudendal hematocele is described by Thomas as an enlargement formed by clotted blood effused into the tissue of one labium, or the areolar tissue immediately surrounding the walls of the vagina.

Frequency.—It seems strange that not one text book or journal gives even a relative frequency of this condition, other than to mention that it occurs more frequently in the pregnant than in the non-pregnant. All agree to this, with the exception of Velpeau, who makes the following statement: that, as a result of his experience, thrombus vulvæ occurs as frequently in the non-pregnant as in those who are in labor. This seems rather astonishing, but, coming from so high an authority, it must be taken for what it is worth until proven otherwise. So eminent a writer as Playfair evades the question by saying that this condition is far from common, which, literally speaking, means nothing at all. With what frequency the practitioner meets with pudendal hematocele I am unable to say, as the majority of text books state after this fashion, that "many physicians of large experience have never met with a case." In looking over the records at the Cincinnati Hospital from January, 1887, to May, 1896, I am unable to find the report of a case.

Time of Occurrence.—I have found, from a careful review of the history of reported cases, that this condition generally occurs in the latter months of pregnancy. An interesting case is one reported by Montgomery in which the tumor showed itself at the seventh month. It caused so much pain as to induce the author to puncture and empty. The following month he again punctured, the tumor being much larger, and the following month he had to puncture again, and the woman was delivered very soon afterward. During the second stage of labor is the time this accident is most liable to occur, when the head is low down in the pelvis or when it is pressing upon the perineum ready for expulsion; hence the extravasation is met with more often in the labia or low down in the vagina. It may happen that a case may not be detected until after delivery, but as

a rule they have had their commencement some time during labor.

Etiology.—In the non-pregnant state the pudendal hemorrhage is due to traumatism, such as a blow, kick, or a fall, striking one or both labia. It was my good fortune to see a case operated upon at the Roosevelt Hospital giving the following history: Woman about 20 years of age. Had been drinking heavily. It was supposed she had been kicked by her husband. The left labium was struck and within a few minutes a swelling the size of an orange was noticed. Upon entering the hospital a diagnosis of pudendal hematocele was made, and she was operated upon the following day. A case where a fall produced a thrombotic condition is reported. A young woman playing the piano, hearing a sudden knock at the door, jumped up quickly and in doing so overturned the piano stool. Losing her balance, she fell, the corner of the seat of the piano stool struck the left labium, and a hematocele resulted.

In very sudden and heavy lifting the muscular efforts may be so violent as to cause a rupture of some of the smaller vessels and a tumor result. Violent and awkward coition is a cause in not a few cases, and Lawson Tait in his work on "Diseases of Women" mentions a case where such a condition occurred, and another case is reported by Ehrendorfer.¹ It is well known that as pregnancy advances there is a marked change in the entire circulatory system, and some authors speak of a certain varicose predisposition existing, which is strongly denied by others. The late Fordyce Barker denied that such a predisposition existed, and McClintock, in Hewitt's "Diseases of Women," states that in thirty-eight cases there were only two in which a varicose condition of the veins was noted as being present. The more common causes in the pregnant state are excessive size of the child's head, an unusual delay at the inferior strait, a narrowing of the pelvis, and the consequent immediate efforts on the part of the patient to overcome the resistance. Sometimes the tumor does not appear until after delivery, and in such a case the outlook is not so favorable, because it may the more readily escape unperceived and the relaxation of the tissue permits it to acquire a very considerable volume. A vein may be ruptured and so compressed by the head in the excavation as to prevent any effusion; the escape of blood, which may be quite free, can only take place after labor is terminated. Instrumental delivery in unskilled hands may also be a cause of thrombosis, an example of which is related by Lawson Tait, where he was called in consultation and the physician stated that in his attempts at delivery the instruments had slipped no less than twenty times. The condition of the patient was something frightful, the uterus, vagina, and vulva being badly torn and bruised. Sloughing soon followed and the patient succumbed.

Pathology.—Usually one, rarely both labia are involved, and in frequency the left predominates over the right. The hemor-

¹ Archiv für Gynäkologie, vol. xxxiv., p. 1.

rhage, which has no outlet, collecting in either one or both labia or in the loose areolar tissue around the vagina, coagulates and forms a tumor which varies in size from a pigeon's egg to that of an infant's head. The size depends greatly upon the extent of the injury and whether it occurs in the pregnant or non-pregnant state, it generally being larger in the pregnant. During labor the intense engorgement to which the vessels are subjected, the interference with the return of blood by the pressure of the head, the violent efforts of the patient, afford a ready explanation of the reason why a vessel may be predisposed to rupture and admit of extravasation. The extreme distension and stretching of the veins has a tendency to weaken the walls, so that coughing and violent inspiratory efforts might cause such an afflux of fluid into them. In a few instances the tumor acquires its full volume, while in others it increases in size for twenty-four hours. It may be limited to the external parts or it may extend deep into the pelvis, and possibly as far as the iliac fossa. Cazeaux reports a case in which the extravasation was so enormous that it not only involved the labia, the areolar tissue about the vagina, but extended into the right hypochondrium to the false ribs and to the attachment of the diaphragm. It not infrequently happens that the effusion commences within the pelvis and subsequently approaches the exterior. The swelling may acquire such dimensions as to not only impede the passage of the child before labor, but make some difficulty in the extraction of the placenta, and may even obstruct the free outflow of the lochial discharge. Madame La Chapelle reported a case where the tumor was so large after the expulsion of the child and placenta that the lochia, being retained, accumulated in the womb and sepsis followed. Upon introducing her hand forcibly into the vagina the tumor ruptured and the symptoms gradually abated. The termination of pudendal hematocele is in absorption, if the tumor be small and the injury be not very extensive. Where the tumor is very large it may burst and an external hemorrhage result, which in some cases has led to collapse. There is great liability of suppuration and gangrene where the tissues are badly bruised and lacerated. One of the most remarkable cases on record is that reported by Mauriceau, in which a blood tumor in the left labium had existed for twenty-five years, and which, when operated upon, gave issue to a matter like the contents of an aneurismal sac. It is also stated that pudendal hematocele often accompanies rupture of the uterus and vagina, but I was not able to find a history of such a case.

Symptoms.—The symptoms of pudendal hematocele are very marked and easily recognizable. The patient generally complains of an acute throbbing pain situated in the vulva. As a rule, upon the discovery of a swelling in the labia the patient becomes extremely nervous and excited, and complains very bitterly of pain, which soon subsides as she becomes quieted down. If the thrombotic condition come on during labor the pain is not noticed, because it is obscured by labor pains. The

tumor, if rupture does not take place, is a hard swelling of a bluish color and may form an obstacle to the delivery of the child. It may be so large as to press upon the neck of the bladder or urethra and cause retention of urine, or even upon the rectum causing constipation. The constitutional symptoms depend entirely upon the quantity of blood effused; it may be great enough to debilitate the patient, and possibly produce syncope and even collapse.

Prognosis depends largely upon the proper management of the case, as far as life is concerned; at the present day the prognosis is almost *nil*. The chief danger in the first twenty-four hours depends upon the quantity of blood lost, and, after the third or fourth day, infection from the formation of pus. Playfair, in his last edition on obstetrics, speaks of hematic effusions complicating labor as very grave, while Cazeaux says the prognosis is usually unfavorable. The following table shows the mortality of two hundred and ninety-two collected cases:

Cases.		Deaths.	Cause of Death.
In Playfair,	124 (collected by various French authors)	44	....
Scanzoni,	15	1	....
Deneux,	62	22	....
Barker,	22	8	Sepsis.
Blot,	19	5	....
Winckel,	50	6	....
	<hr/> 292	<hr/> 81	

In this table I was able only to get the cause of death as sepsis in three cases reported by Fordyce Barker. This table gives a mortality of twenty-eight per cent, which seems very large at the present time.

My experience with pudendal hematocele is with two cases, the one already related and the other occurring in my own practice. I was engaged to attend a Mrs. R. in confinement, which was expected about the last of December. The 6th of December I was hurriedly summoned to her home and found both the woman and her sister in a very excited condition. The history of the case was about as follows: The patient was going down-stairs when her left foot became entangled in her wrapper and she fell about ten steps. It so happened that her slippers had very high heels, and the supposition was that the left heel struck the left labium. Upon a very superficial inspection I thought it was the head of the child. The woman was not only very nervous but was screaming with pain. The pain being so steady, and the woman crying out at the top of her voice, led me in a few minutes to make a further and more careful examination, and much to my surprise I found the left labium enormously swollen, fully the size of an infant's head, and of a deep-blue color. The very remarkable thing is that, instead of bringing on labor pains, the woman made an uninterrupted recovery, and I attended her in about three weeks afterward, when she gave birth to a male child, weight six pounds and

Grand Hotel when I was boarding there some twenty years ago. The patient was a young married woman, and the tumor was about as large as a hen's egg. A free incision was made; packing was removed within twenty-four hours; speedy recovery.

DR. J. AMBROSE JOHNSTON.—It has been my privilege to see only one case of vulvar hematocele. A young woman was standing on a three-legged stool, which upset, and in the fall one side of the vulva struck the end of one of the legs. I found a hematocele, tense and hard, which in a few hours burst internally to the labia minora. The hemorrhage was stopped by packing the cavity and placing a tight T-bandage on. Next day the packing was removed. Should I see another case like this I would enlarge the opening, ligate the larger vessels, and coaptate the oozing surfaces with catgut. I believe the larger ones, which occur in confinement, should be incised, the larger vessels ligated, and the internal surfaces brought together with catgut, if there be much oozing. If there be no oozing the insertion of a drainage tube, the closing of the incision, and the application of a compress to coaptate the interior of the hematocele will be all that is required.

DR. MCKEE.—I can report one case of some interest, because of the peculiar manner in which it occurred. I was making preparation to perform a plastic operation for laceration of the perineum and cervix about five years ago, and we had brought from the kitchen an old wooden chair with an upright piece on each side. The patient, to show how little she feared the operation, stepped up on the chair in a brisk manner to get on the table. In doing so she upset the chair, fell astride of the back, and struck herself on the right labium. A hematocele developed before our eyes as large as a fist and caused considerable trouble during the operation. Later we opened it, and it healed nicely. I had another case in my clinic some years ago, the facts of which I cannot now recall.

DR. GEORGE E. JONES.—I can report two cases of hematocele, one the result of an accident, and the other the result of injury done by the husband and two or three other parties, who used the woman badly by kicking her. I think the patient was kicked by two or three men inside of a very few minutes. The tumor was very nearly as large as a cocoanut, but I did not see the case until seventy-two hours afterward. I opened it, turned out the clot, packed, and had no further trouble. The other case was small, and I did nothing with it but apply pressure.

DR. TATE.—I would like to thank the Society for the manner in which they have received the paper. I am sorry I did not look at Winckel's book. It seemed to me I spent about a month in looking over text books before I took up the journals. In none of the text books I examined did they give anything definite as to the frequency. Most of them said it was infrequent.

DR. E. W. MITCHELL read a paper on

CURETTAGE IN OBSTETRIC PRACTICE.

Under proper indications and properly done, curettage is one of the most satisfactory of obstetric procedures. We shall consider separately its indications in abortion or miscarriage and after labor.

Abortion is at best a pathological process in which the physiological forces are taken at a disadvantage, and requires, therefore, very frequently the intervention of art. When Nature does promptly and completely finish up an abortion I am content to leave matters in her hands. Most frequently portions of the ovum or its envelopes are left behind, keeping up pain, hemorrhage, and liability to sepsis. In these cases, where Nature fails, the skilful practitioner steps in and completes the work by cleaning out the uterine cavity. Pain and hemorrhage cease, and he may leave his patient, confident that infection will not occur.

Many prefer to use the fingers under these circumstances. My own experience is that the purpose can be more quickly, more gently, and more thoroughly accomplished with forceps and curette. The course to be pursued should depend upon the conditions present. If hemorrhage is not severe it is best to give time for the uterine contractions to dilate the os and detach the decidua before interfering. If hemorrhage is sufficient to be dangerous and the os undilated and rigid, the tampon may be used. If, however, the os is softened and pains have been present long enough to make it likely that the secundines have been well detached, it is better not to use the tampon, but at once to complete the dilatation, as far as may be necessary, with steel dilators, remove ovum and placenta with placental forceps, lightly curette the mucosa, and irrigate with an antiseptic solution. I have found creolin and lysol very satisfactory antiseptics in obstetric practice.

A most important class of cases are the neglected ones in which portions of the secundines have been retained and in which hemorrhage has persisted or infection has taken place. In these cases curettage gives most gratifying results. Hemorrhage at once ceases, and the most alarming septic symptoms disappear as if by magic.

The nearer the delivery approaches term the less frequently is curettage indicated. since the greater development of the musculature enables the uterus the more perfectly to expel its contents. Following labor there are two indications for the use of the curette—hemorrhage and sepsis. In hemorrhage it is better first to explore the cavity with the finger. If a single fragment is found the forceps may be guided by the exploring finger, the fragment seized and removed. If numerous small pieces are found the curette may be swept over the whole surface, in either case the uterine cavity being thoroughly irrigated.

Curettage in puerperal sepsis is a question upon which there is some difference of opinion. This difference is mainly due to

the fact that discrimination has not been carefully made between cases of true septicemia and cases of putrid absorption. In the former the germs very early have penetrated the uterine sinuses and the lymphatic spaces, where they are growing and producing their toxins out of reach of the curette by the time it is used, so that the removal of the original focus of infection can have but little effect. In sapremia the germs are growing in the débris in the cavity, whence their toxins are absorbed, producing the fever and other symptoms. Removal of the débris removes the source of supply. The temperature almost immediately falls and recovery at once sets in. In septicemia the results are not so gratifying, yet in either case curettage should be promptly made upon the onset of symptoms of infection.

The following objections have been urged against curettage in both abortion and labor, applying, of course, more especially to the latter :

1. The disturbance of the patient.
2. The danger of opening up the uterine sinuses and breaking down new-formed granulations, thus favoring increased absorption.
3. The danger of perforating the uterus.
4. Danger of lacerating uterine tissue.

The first of these objections cannot hold in the face of the great benefit of the operation. In most cases of abortion anesthesia is advisable, rather because of the pain of the dilatation than that of the curetting. After labor the pain is not great, and it is only in patients who are nervous and timid that it is required. That the second is a real danger is proven by the fact that quite commonly the treatment is speedily followed by a rigor and a marked rise in the temperature. However, the temperature soon falls to a lower point than that preceding the operation. The temporary aggravation of symptoms is fully compensated by the subsequent improvement. The third and fourth dangers are to be avoided by skill and the employment of proper instruments.

The answer to all objections is *results*. In abortion and sapremia they are altogether in favor of the wise and careful use of the curette. In lymphatic septicemia it is only at the very outset that we can expect to secure marked improvement. Yet, even if the case is not seen until late, the operation should be made, as it removes at least a part of the nidus of infection. As to the technique, the strictest antiseptic precautions should be observed. I prefer the dorsal position, the hips well over the edge of the bed, the limbs supported by assistants. In septic cases thorough irrigation should precede as well as follow the curetting. Iodoform gauze is loosely packed in the cavity. If the temperature remains down the irrigation is not repeated. In several cases I have apparently saved the patient by irrigation repeated every few hours. If the symptoms indicate that all fragments have not been removed a second curetting may be made. This will seldom be required, and I can see no jus-

tification for the repeated curettings that have sometimes been advised. My choice of instruments for this work is a broad, rather sharp, open curette.

DR. C. L. BONIFIELD followed with a paper on

THE USE OF THE CURETTE IN THE TREATMENT OF
ENDOMETRITIS.

Endometritis, for the purpose of discussing the use of the curette in its treatment, is best divided into three varieties—catarrhal, septic, and gonorrheal.

Catarrhal Endometritis is the form of pelvic disease most frequently induced by improper habits of life, consequently the one most amenable to constitutional or medical treatment.

A large per cent of cases occur in unmarried women. In the society girl it is produced by the nightly exposure of the arms and a large portion of the chest, whereby the blood is driven into the interior of the body, congesting the uterus along with other organs; the tight corset, displacing the abdominal organs and interfering with the action of the heart and lungs; the numerous meals, at irregular hours, of stimulating and indigestible food; the position assumed in dancing; and the exposure and lack of rest during menstruation.

In her less fortunate sisters, the school teacher and the shop girl, the constant standing serves as an efficient exciting cause.

Another cause I deem of importance is unsatisfied sexual desire. Genito-urinary surgeons tell us this is an important factor in the production of hypertrophy of the prostate, which is a condition in the male somewhat analogous to fibroid tumors of the uterus in the female. We all recognize the fact that this latter affection is a penalty frequently paid for celibacy. If it produce this graver result of persistent uterine hyperemia it is fair to suppose that it will also produce catarrhal endometritis.

The cause of the disease having been recognized, the proper treatment suggests itself. The faulty habits must be, as far as possible, corrected. If the patient is anemic, iron, quinine, and strychnine between, hydrastis and hyoscyamus or cannabis indica during, the menstrual periods. An occasional mercurial purge is always indicated. While the symptoms are acute and exercise gives rise to pain, rest in bed should be enforced; later the patient's mind should be diverted from herself and her disease, and healthful exercise in the open air, horseback-riding, bicycling, etc., are of the greatest value. A change of climate, particularly a residence for some time at mineral springs, is beneficial. These measures faithfully used will cure many cases, and they should always be employed before resorting to any local treatment in the unmarried. I wish to protest against the growing tendency to curette every girl that has a little leucorrhea and menstruates a day too long or with some pain.

If these measures fail the curette is indicated. It is much to be preferred to prolonged office treatment.

In married women the objection to local treatment does not

exist, and in the majority of well-marked cases curettement is the appropriate measure.

It is true that a large number of this class of cases can be cured by office treatment. Drainage of the uterus secured by gauze, application of carbolic acid and iodine to the endometrium, bleeding the cervix, correction of malpositions, etc., will in time effect cure, and there are cases where it is advisable to proceed in this way. Where existing disease of the heart or kidneys makes it unsafe to use an anesthetic, or where the patient will not readily submit to an operation, the gynecologist may prefer this method of treatment. To the general practitioner who desires to treat his own cases it will usually commend itself, for lack of operative experience makes an aseptic technique well-nigh impossible for him to attain, and without it there is some danger in the operation.

The severer forms of the disease cannot be cured without curettement. Nor will curettement alone cure all of them, but curettement combined with such other local and constitutional measures as are indicated will.

It may be necessary to repair a lacerated cervix, or perform an anterior or posterior colporrhaphy, or both. Or an Alexander operation or suspension of the uterus may have to be done; for unless the circulation in the uterus can be restored to its normal condition, no relief of the symptoms will be permanent.

Septic Endometritis usually follows abortion or labor at term, and this phase of the subject has been discussed by my friend Dr. Mitchell; but it may follow the introduction of an unclean sound or operation upon the cervix; it may also develop during menstruation by infection from germs existing in the vagina. The curette with antiseptic irrigation should be used as soon as the diagnosis is made. Where there are stitches in the cervix they should be removed. If this treatment is instituted sufficiently early it will generally give relief and obviate the necessity of later resorting to more dangerous surgery that, even if successful, leaves the patient mutilated.

Gonorrheal Endometritis, when seen in its incipency, can usually be cured by intrauterine irrigation and gauze packing, provided the disease be vigorously attacked at the same time wherever else it may have found a lodging place, in the vagina, the urethra, the glands of Bartholin.

But if it has been in progress some time when it comes under the physician's care, or if after a faithful trial of these measures it fails to yield, curetting is indicated, no matter whether the symptoms are acute and alarming or chronic, the only contraindication being a palpable accumulation of pus in or around the appendages. When this condition exists the pus should, if possible, be evacuated through Douglas' cul-de-sac. If this cannot be done an abdominal section should be made for its removal, either operation being immediately followed by curetting.

Technique.—We are to have a special paper on this branch of the subject, so I touch very briefly on but one or two points.

Before curetting, the uterus should always be thoroughly dilated. For this purpose I prefer the Goodell dilator, and always work it with the hand, never with the screw, and make the pressure intermittently, as does Nature when she dilates the cervix in parturition; believing that in this way the cervix is less apt to tear, and if it should do so the force can be released before the tear progresses far. The sharp curette is the only instrument of any value in these cases. Two sizes are needed, the smaller to enter the horns of the uterus, the larger to more rapidly and with greater certainty go over the walls in their entirety. The curetting should be continued till at every point the operator can feel firm tissue and hear it grate under the instrument. The uterus should now be mopped out with a strong antiseptic, dried with absorbent cotton, and packed with iodoform gauze tight enough to prevent any oozing of blood. In catarrhal endometritis this packing may be allowed to remain for from seven to ten days, if there be no elevation of temperature. In septic or gonorrheal cases it is wiser to remove it in forty-eight or sixty hours, irrigate the uterus, and loosely repack it. If the tight packing causes painful uterine contractions they can be relieved with codeia and hyoscyamus. Patients who have been curetted for endometritis should be examined a few weeks later, and if there is still some discharge issuing from the uterus the endometrium should be treated with iodized phenol twice a week. If this does not give entire relief the curetting should be repeated. In some cases even the third operation is required. The accidents incident to the operation are laceration of the cervix, perforation of the uterus, and rupture of an abscess adjacent to the uterus.

Laceration of the cervix can usually be avoided by following the method of dilatation indicated above. If a laceration of any extent take place it should be sutured at once.

Perforation of the uterus is an accident that has happened one or more times to almost every operator of experience. A soft cervix, from which the volsella is inclined to tear, would put the operator on his guard. In two cases in which I have met with this accident I noticed afterward that the cervix was unusually friable. One of the cases had never been pregnant; the other had borne two children, the youngest of whom was 16 months old. Both recovered without untoward symptoms. When the uterus has been perforated, of course it will not be irrigated or swabbed out with strong antiseptics. It may be wiped dry with sterile absorbent cotton and packed loosely with iodoform gauze. If the uterus was pretty thoroughly cleaned out before the perforation was made and the operator recognizes what he has done, recovery is to be expected.

If one has good reason to suspect he has ruptured a pelvic abscess into the peritoneal cavity, the proper procedure is an explorative abdominal section, and if his suspicions prove true he will flush and drain.

DR. TATE.—I am much interested in Dr. Mitchell's paper,

because I had the pleasure, three months ago, of reporting two cases to the Academy of Medicine which I had operated upon at the Maternity Hospital for retained placenta and membranes. Then quite a number took exception to the use of the curette in such cases, and one member said that after a case of labor with retained placenta or membranes he was able, by means of his finger introduced into the uterus, to scrape out the remains of the placenta. I cannot understand such a statement, for we know that the uterus does not contract so that its whole cavity is within reach of the finger in eight or ten days after delivery.

Dr. Bonifield refers to bicycle-riding as of benefit to women. To this I wish to take exception. Bicycle-riding for women is an abomination. We know it is the fad and greatly overdone. Pelvic congestion is very liable to follow, and any slight inflammation existing is aggravated. Especially is this so at or near the menstrual period. Profuse leucorrhœa is a very common result of bicycle-riding.

DR. PALMER.—I do not know that I ought to speak upon this question, since I have designed two of the instruments referred to to-night, the dilator and the curette, and it might be too personal for me to speak upon the matter just now. I will, however, make a few remarks upon the propriety of using the curette.

There can be no doubt about the curette being an exceedingly valuable instrument. It is valuable in many cases of abortion—those cases, for instance, which we technically call “incomplete” abortions, in which some portion of the ovular tissue is retained and these remnants give rise to trouble, sepsis and hemorrhage. Now, when the curette is used under such circumstances the instrument should be as large as can be put inside of the uterine cavity. The cervix is generally soft and relaxed, and a larger-sized instrument will usually go in than one would think. For an abortion which occurs at the most common time, some time along about the third month, the curette should be somewhat scoop-like in shape, smooth, blunt, and not sharp. What we want to do is to remove any of the ovum that is retained, all the retained forming placenta and the decidual structures, but none of the genuine mucous membrane. In other words, we do not want to use any force, but gently pass this kind of a curette from the fundus down, taking perhaps more care in going over the posterior wall and the horns of the uterus. But we never ought to use it with any degree of severity, and never when it is sharp, as we ordinarily employ the curette for certain gynecological affections.

About twelve years ago the subject of the employment of the curette came up before this Society at a meeting held at my house. I think I was then the only one who advocated the use of the sharp curette in gynecological practice, and for this I was criticised sharply. Now almost everybody employs the sharp curette. The dull curette, as a rule, is employed in obstetrical and the sharp curette in gynecological work. It is my practice, of course, ordinarily to dilate the uterus when the

curette is employed for gynecological purposes, but, as I have said, this is not necessary when the curette is employed for obstetrical purposes. I am in the habit, usually, of washing out the uterus with the reflux tube before curetting. Before I stuff the uterus with antiseptic gauze I generally again wash the cavity out with some hot antiseptic fluid.

DR. STARK.—In the first paper presented this evening a statement was made that the further advanced in pregnancy the less is there a necessity for the use of the curette, and the essayist attributed the cause of this to the fact that the muscular structure of the uterus had become hypertrophied and its expulsive power had become thereby increased. I am inclined to take exception to this view. I believe the greater necessity for the curette early in pregnancy than late may be attributed to two reasons. During the first two months of pregnancy the ovum is covered over its entire surface with chorionic villi, and the attachment to the uterus is so extreme as to prevent the separation of the chorion in the expulsion of the ovum. I have seen ova expelled, and have no doubt others have, whose outer covering consisted only of the amnion. Another reason is that you do not have the same changes at this period which take place later—namely, fatty degeneration of the subdecidual stratum. In many instances, also, the decidua vera is thrown off in large pieces after seemingly the whole ovum has been cast off—that is, where the ovum is surrounded with the chorionic villi you subsequently have clots expelled containing large pieces of the decidua vera, and this is due to its primary non-separation.

And I believe, also, that we are able to cure many cases of true septic endometritis by the use of the curette. The reason for this is that we remove the source of the lymphatic inflammation in the same manner as we are able to cure a lymphangitis of the arm by the disinfection and drainage of an infected hang nail or felon. In regard to the treatment of gonorrheal endometritis by the use of the curette, I am thoroughly opposed to that. I do not believe it is scientific. I think the very fewest of such cases are cured. We all know that men who have had gonorrhea come to us years afterward and complain of a slight gleety discharge in the morning, and if we examine the discharge it is free of the gonococci; but if we pass a sound and repeat the examination in a few days the discharge is very often purulent and full of gonococci. I remember when I was studying in Breslau I saw a case in which a woman gave birth to three children, each born with ophthalmia neonatorum. The lochial secretions examined were full of the gonococci. After the lochia had subsided there were no gonococci. It has, furthermore, been shown that the discharges from the uterus just prior to and shortly after menstruation contain gonococci, while in the interim the secretion is free from the gonococcus. The mucous follicles of the uterus extend between the muscular bundles, and down there you will also find white corpuscle infiltrations which contain the gonococci and make

it impossible for the curette to remove the infection. All you can do with this procedure is to stimulate the germs and further their growth. And that has been my experience in practice, too. I would never think of curetting an acute case of gonorrhea; and the chronic cases which I have curetted were worse afterward, and in one I know I induced a purulent salpingitis.

DR. PALMER.—In those cases in which you did not think you got good results, was there any perimetritis?

DR. STARK.—Not evident, but perhaps there was some latent perimetritis. I believe there was some latent trouble there beforehand. But I am referring to cases of pure and simple gonorrheal infection. After curettage and the other associated treatment the discharge is more profuse and the gonococcus is developed into activity and multiplies.

DR. REAMY.—I am surprised to find such a great difference between Dr. Stark's experience, as the result of curettage in acute gonorrhea, and my own. In former years any treatment that I could employ for the relief of acute gonorrhea in the female was likely to be followed subsequently, in a large percentage of cases, by the chronic conditions to which Dr. Stark has referred. For the last ten years, both in private and in hospital practice, I have curetted in most instances in early stage. Usually no sequelæ, no extension of the disease into the tubes, occurred. I supposed this was now the practice of every one who sees much of this disease in the female. I would curette a case of gonorrhea in the female the very day after the disease started, and would expect to cure her. Undoubtedly the infection gets into the uterus. It invades the cervix and ultimately the cavity of the uterus. Everything depends on how you curette. I speak now of curetting in acute gonorrhea. In the first place, of course, the woman must be absolutely and thoroughly sterilized. This sterilization must consist, first, in clearing out the urethra, washing out the bladder, washing out the vagina thoroughly with a vaginal brush, spending twenty to thirty minutes in these procedures, and then curetting the uterus thoroughly with a sharp curette (the blunt curette will do no good), curetting the lower segment of the uterus with especial care. Then wash out the uterus with either bichloride solution or a solution of carbolic acid (which I prefer), and pack well with iodoform gauze. Take this gauze out in two days and again wash the uterus and repack. I pack the vagina in these cases, as well as the uterus, as tightly as possible. If you treat these cases in this way you will cure them in three or four to five or six days. This is, of course, only a brief outline. You vary the treatment according to the stage of the disease and other conditions present in any given case.

DR. E. W. MITCHELL.—Suppose you had a case in which the disease had extended into the endometrium and there was an acute endometritis set up, with high fever, tenderness about the uterus, etc., what would you do?

DR. REAMY.—Well, of course, if it had invaded the endo-

metrium, which it would not do in the beginning, and there was likely a perimetritis, I would be governed by the general rules that would guide me as to curettage in other cases. If the woman were excessively tender I would depend on washing the uterus out frequently at short intervals. But I have had some cases with tenderness in which I have curetted with the sharp curette and washed out thoroughly and the tenderness subsided. I have in some cases used the tincture of iodine with advantage. In all these cases there must be free saline purgation.

DR. STARK.—The lower part of the uterus is very rarely involved; the lower part of the cervix hardly ever at first. It usually skips over that.

DR. REAMY.—Yes, but I catch them while they are skipping, before they get down in the utricular glands. That is where they are heading; they are not there in the beginning. We had quite a number of cases in the Cincinnati Hospital last winter subjected to this treatment, and I do not know a solitary case that did not get well. The effect is almost like magic, if the treatment is thorough.

DR. E. W. MITCHELL.—What is the effect in chronic cases?

DR. REAMY.—Of course, when the chronic condition of inflammation has been established and we have a chronic endometritis, the effect is not so good. When I say the effect is like "magic" I do not refer to that stage.

DR. STARK.—Would curettage cure a chronic gonorrheal endometritis?

DR. REAMY.—When the gonococci have gotten into the tubes and produced the chronic conditions to which you have referred, curettage would be suitable treatment, but is here only auxiliary.

Dr. Mitchell has referred to the use of the curette in obstetrics, and I will now take up that feature of the question, simply giving my own views and some of the results of my own experience. Coming directly to the answer to the President's question, I would not advise in all cases the immediate emptying of the uterus in the progress of a case of abortion at the second month, or even at three or three and a half months. I would wait first to determine whether the uterus would expel its contents in due time unaided. How long I would wait would be determined by a number of things, as the amount of hemorrhage that might be present, etc., but always governed by the fact whether the woman has temperature. If the woman had temperature and a rapid pulse I would empty the uterus. I would not, in every case in which I emptied the uterus, use the curette. Indeed, I would not use the curette, if I could avoid it, in removing the ovum or the "shell." I would never in a case of this kind, of course, attempt to empty the uterus or curette with the finger. I cannot understand how you can curette the uterus with the finger without carrying the hand into the vagina, and it is a cumbersome and unhandy thing. I would dilate if it became necessary. Generally the dilatation

need not be very considerable. Then I would introduce into the uterus, instead of the curette, an instrument like the forceps the surgeon would use for seizing the stone in doing the lateral operation for stone in the male. The edges should not be sharp or serrated. This is the so-called Reamy abortion forceps. You can very easily, if the uterus is dilated sufficiently, introduce this instrument and carry it out in every direction rapidly in one-half the time you can curette. You can speedily and safely empty the uterus. It will not catch the uterine wall nor wound the uterus at any point. This cannot be said of the curette in such cases; on the contrary, it is a dangerous process. Now I wish to answer more directly the President's question. If there were septic symptoms I would empty the uterus at once; if I felt the uterus required more thorough curettage, subsequently I would use a curette of some form—not much difference what form, but a sharp instrument. This applies particularly to the removal of retained material later on in pregnancy. But beware of the use of the curette with softened uterine walls; you are as likely to curette points where it is not needed as points where it is needed. In gonorrhea and chronic metritis one is fooling his time away with anything but a curette. As Dr. Palmer has said, when a curette is called for, use a curette as large as possible. The wider the surface the better.

Now, of course, everybody knows that after curettage you must in every case irrigate with an antiseptic fluid; and perhaps there is nothing better than creolin, which is perfectly harmless. Neglected abortion, bad treatment during the abortion, trusting to Nature to do that which the skill of the general practitioner enables him to do as well as the specialist, and which the general practitioner should recognize as important at the time of the abortion, will bring the means of saving these women from chronic invalidism, and often incurable diseases that render their lives miserable for years afterward.

DR. TATE.—Do you pack the uterus, too?

DR. REAMY.—Not in cases of abortion. As Dr. Mitchell has said, often when you have removed the focus from which the streptococci are distributed the few wandering in the circulation are killed at once by their enemies in the blood. That is the reason these cases get well as soon as you remove the cause. The supply being cut off, the conflict soon ends.

Dr. Mitchell called attention to the fact that the objection he has to the use of the curette in obstetrical practice further along is the fear of opening the uterine sinuses and inviting infection. But if you thoroughly cleanse the uterine cavity by irrigation, instead of introducing sepsis you remove the nidus of the organism. You had better get down to the thrombus in the sinus, and let another one form which is not so infective. Dr. Bonifield's statement, with reference to young women having catarrhal endometritis from general constitutional symptoms, is a proposition containing considerable truth. Gentlemen, it is undoubtedly true the gynecology of twenty years

from now will be trimmed down very much from what it is to-day. The rôle played by metabolism, the interchange between repair and waste of the system, and the retention in the system of material that ought to be eliminated, and therefore the autoinfection which results in general and local conditions which call now for the gynecologist, will be treated, and often prevented, by the general practitioner. How many girls are anemic, and for the very reasons he has mentioned—bad hours, bad food, possibly bad company, leading to conditions which produce catarrhal discharges from the uterus and vagina, continuing for a long time and possibly accompanied with constipation, often producing a chronic condition which requires a long course of treatment. Many such cases are now treated as gynecological cases; the girls are mutilated and outraged by the speculum and curette. Then they will be treated, as they should be, by the family physician. In bicycle-riding there are to be obtained good air, grace, and exercise.

You ask me as to dilatation. Some one expressed just my opinion when he said it is not necessary, in a large number of these cases, to dilate very extensively. When you are going to curette for chronic metritis it is not necessary to dilate any more than sufficient to get the dilator in. It is not so much the kind of dilator as the manner of using it. I often use a dilator on the plan of Hegar's dilator. A similar one, of hard rubber, is made in this country, called Hanks' dilator. Now I want to ask any of you to try it the first time you want to curette for a case of chronic endometritis. Take a half-dozen or a dozen graduated dilators, and you will be surprised how soon you can make the dilatation. You can dilate without producing rupture of a single fibre, which cannot be done with any form of instrument with separating arms. And then with the Hanks instrument the dilatation is more permanent. Any man who undertakes to treat one of those cases must take the time to dilate gently and thoroughly, and not be in a hurry. With deliberation much safer and better results can be obtained. Of course I am now speaking of cases where dilatation is for curetting in cases of chronic endometritis, etc.

DR. J. AMBROSE JOHNSTON.—Asgonorrheal endometritis is a disease which we only see several days after its inception in the vagina, I am one of those who believe very few cases are cured by the doctor, but if cured at all Nature does the work in due time by the antitoxins which the gonococcus forms. It seems to me it is impossible to entirely destroy these germs, which, being invisible, can hide away in the nooks and crannies of the vagina and vulvo-vaginal glands completely out of reach of all medicaments. If this disease has extended up into the Fallopian tubes it is utterly impossible to give any relief by curettement, simply because the germs would be coming down to infect the field again.

I use the curette in abortion only in cases of hemorrhage or sepsis. Rarely is it necessary to dilate the cervix, as we generally find enough dilatation to introduce the finger or

curette into the uterus and clean it out. If the uterus can be brought down low, or if the hand is small enough to introduce into the vagina, and the cervix is opened enough to readily admit the index finger, it is far better to clean out the secundines with the finger than with the curette. With the curette it is often impossible to know when all has been scraped out. Several times in this Society we have had members state they had curetted the uterus for retained secundines and in a day or two, to their surprise, large pieces came away. But with the finger you can recognize soft tissue and thoroughly clean out the uterus. When the secundines have been retained three or four months, care should be taken not to perforate the uterus. The uterus then is liable to be very soft, and it is easy to perforate it, which fact was made very patent to me from an experience I had in this direction a few months ago, but without any bad results. As we go further along in the months of pregnancy the curette should be used less and less; and seldom ought it to be used in the eighth or ninth month of pregnancy, when better results will be obtained by irrigating the uterus once or twice a day, together with the administration of quinine and ergot, causing contraction of the uterus, thereby closing sinuses and large lymphatics to the ready entrance of septic material.

DR. REAMY.—In nearly every one of these cases of gonorrhea, after the purgative on the second or third day, I put the patient on very large doses of the balsam of copaiba—not a popular remedy now. A few years ago the elder Brunton gave us the explanation of the action of this drug. Its action is antiseptic and it is eliminated by the kidneys.

DR. E. W. MITCHELL.—Dr. Stark is, of course, correct in saying that the changes which take place in the decidua and in the development of the placenta are the chief factors in the more thorough separation of ovum and secundines as pregnancy advances.

In speaking of the greater development of the musculature I had in mind the more prompt and thorough evacuation of the contents. I purposely said little about the technique, as Dr. Jones was to consider that subject especially.

I must confess that I have not been able to clear out the uterus with the fingers with the facility some of the gentlemen claim, although I have tried it many times.

DR. BONIFIELD.—Of course the first thing I wish to do is to defend my recommendation of the bicycle. Like all good things, it can be abused. Because it is good for a girl to ride five miles it does not follow it is good for her to ride fifty miles; and because one saddle hurts these patients it does not follow that all saddles hurt them. If we recommend these patients to obtain the proper saddle and ride in moderation I believe they will be benefited.

Now as to curettage in acute gonorrhea. Several years ago I began to curette these cases where the uterus was tender. I was taught, when I was at college, that the uterus that was tender, or if there is any tenderness about the uterus, it must

not be curetted. But by experience I got to curetting the uterus when there was some tenderness in the region of the uterus, and I have never had anything but good results from it. I was very glad to see the "American Text Book of Gynecology" not only bears out my statement in this regard, but says all cases of inflammation about the uterus should be curetted. Of course, in speaking of technique, I only referred to curettage in endometritis. I have never had occasion to use the curette for abortion. I was taught by Dr. Reamy to use the placental forceps, and have never changed my practice. It seems to me more scientific. As with the finger, you can find where the fragments are, and you can remove them without disturbing the other parts.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

ABSTRACT OF THE PROCEEDINGS OF THE NINTH ANNUAL MEETING, HELD
AT RICHMOND, VA., SEPT. 22D, 23D, AND 24TH, 1896.

*The President, JOSEPH PRICE, M.D., of Philadelphia, in the
Chair.*

The Association convened in the assembly room of the Jefferson Hotel. After the transaction of some preliminary business the reading of papers was proceeded with.

DR. JOHN M. DUFF, of Pittsburg, read a paper entitled

PELVIC DISEASES AND THEIR PRINCIPAL CAUSES: WHAT
SHOULD THE LAITY BE TAUGHT CONCERNING THEM?¹

DR. WALTER B. DORSETT, of St. Louis, Mo., presented a paper on

DECEPTIVE SIMILARITY OF SIGNS AND SYMPTOMS IN INTRA-
ABDOMINAL DISEASE, WITH CASES.²

DR. RUFUS B. HALL, of Cincinnati, O., read a paper on

THE MOST POTENT CAUSES OF PELVIC INFLAMMATION.³

The three preceding papers were discussed jointly, and DR. J. HENRY CARSTENS, of Detroit, opened the debate. Dr. Carstens said that when prominent ministers of churches consulted physicians and asked them to produce abortion on their wives he became disgusted and thought it was love's labor lost. Still the gynecologist must keep on preaching against the dangers incident to the bringing about of abortions.

¹ See original article, p. 684.

² See p. 665.

³ Will appear in the December number.

With reference to Dr. Dorsett's paper, the difficulty attending diagnosis at times was exceedingly great, and anything that could be added to our ability to diagnosticate cases was very desirable. The gynecologist should exhaust his diagnostic resources before resorting to an abdominal section. The too frequent opening of the abdomen, he thought, stimulated incompetent persons to do likewise, and as a consequence the results were disastrous and eventually reacted on gynecologists.

DR. W. E. B. DAVIS, of Birmingham, Ala., does not believe that gonorrhea plays so important a part in the production of pelvic inflammation as was heretofore thought. One's conception of cases of pelvic trouble depends largely upon the class of practice he does. For instance, the cases encountered in dispensary practice are different from those met with in private work. Dr. Davis believed that fully fifty per cent of the cases of pelvic inflammation are due to puerperal infection, either at the time of delivery at full term or premature delivery.

As to tuberculosis, more importance, he thought, was being attached to it as a cause of pelvic inflammation than it deserved. Those who did considerable operative work knew that only a small per cent of cases had their origin in tuberculosis.

DR. JAMES MCFADDEN GASTON, of Atlanta, Ga., directed attention to the prophylactic management of cases of pregnancy prior to the period of confinement. Extreme hygienic precautions might warrant in some instances the use of antiseptic washes prior to labor, particularly in cases of fluor albus; but, as there was a great tendency on part of some members of the profession to resort to measures which are regarded as precautionary in the way of preparing the female for labor and using washes in advance of confinement, it struck him that this was altogether out of place, inasmuch as there was a normal condition of things, and Nature should be allowed to take its course unless the reasons were absolutely clear for interference.

DR. ERNEST S. LEWIS, of New Orleans, cited a case which aptly illustrated how errors in diagnosis are made in abdominal tumors. He operated on a patient last winter for what he supposed was a small ovarian tumor, but which, after the abdomen was opened, turned out to be a retroverted gravid uterus.

DR. FRANK D. THOMPSON, of Fort Worth, Texas, would like the essayist (Dr. Hall) to have gone more fully into the point as to when it was safe for a man to marry and have intercourse with his wife. He said many cases of gonorrhea occurred in married men, and the gynecologist had before him all the ills and evils incident thereto in treating their wives. How long shall such men abstain from sexual intercourse? These points he would like discussed more fully.

DR. LEWIS S. MCMURTRY, of Louisville, Ky., considered the idea enunciated by Dr. Hall, with reference to gonorrhea and its relations to marriage, impracticable.

Regarding the exploratory incision for diagnostic purposes, a small opening was not sufficient, but the incision should be so enlarged as to enable the surgeon to thoroughly explore the

abdominal cavity in order to detect such pathological conditions as might be present.

DR. L. H. DUNNING, of Indianapolis, Ind., cited cases illustrating the impracticability of making a small exploratory incision for the detection of pathological conditions. The incision, in his opinion, should be sufficiently large to enable the operator to make a thorough search.

DR. A. H. CORDIER, of Kansas City, Mo., said, regarding the possibility of making accurate diagnosis in intra-abdominal pathological conditions, that in eighty per cent of the cases this could be done by painstaking and careful efforts.

DR. EDWIN RICKETTS, of Cincinnati, O., agreed with the preceding speakers that it was exceedingly difficult at times to diagnosticate intra-abdominal lesions prior to opening the abdomen, and said that sometimes the operator did not know the true nature of the growth even after the abdomen was opened. Cases illustrating the great difficulty attending the diagnosis of intra-abdominal growths were cited.

DR. E. F. FISH, of Milwaukee, Wis., said that while he did not believe in promiscuous exploratory laparotomy, he could recall one case in particular in which such a procedure saved the life of the patient.

DR. RICHARD H. GIBBONS, of New York, thought many of the conditions dealt with in the papers were largely due to puerperal contamination, or, in some instances, to laceration of the cervix, as had been pointed out by Emmet. He believed that Noeggerath gave us the keynote to the class of infection produced by gonorrhea.

Relative to diagnostivating intra-abdominal diseases, there was no particular symptom that was pathognomonic. Dr. Gibbons pointed out the unreliability of McBurney's point, of which so much has been said, and called the attention of the Association to an article by him on this point published in the *New York Medical Journal*.

DR. H. W. LONGYEAR, of Detroit, Mich., emphasized the importance of educating the laity in regard to gonorrhea and its consequences. He believed the teachers of our public schools should be empowered to impart the necessary knowledge regarding the dangers of this disease to the pupils.

I. OVARIAN TUMOR.

DR. GEORGE BEN JOHNSTON, of Richmond, Va., presented the specimen of an ovarian tumor, the first one removed under Listerism in the State of Virginia, so far as he had been able to ascertain. The patient was a woman 26 years of age and unmarried. The tumor was removed by him on the 19th day of March, 1879. The tumor weighed, with the sac and fluid contents, thirty-four pounds. The operation was performed under the spray and with the elaborate dressings recommended by Lister, etc. This patient died from sepsis.

II. UNILOCULAR OVARIAN TUMOR.

In November of the same year he was consulted by Mrs. M., whom he presented to the Association in person, for what turned out to be an enormous unilocular ovarian tumor. The patient's measurements were six feet and four inches around the abdomen at the umbilicus and three feet and two inches from the ensiform cartilage to the pubes. The contents of the tumor and the sac weighed ninety-six pounds. This operation was performed at the patient's house, with the same care as that of the previous one, and was followed by recovery.

DR. WALTER B. CHASE, of Brooklyn, read a paper entitled

MIXED TUMORS OF THE OVARY.¹TUBO-OVARIAN CYSTS WITH INTERESTING CASES²

is the title of a paper presented by DR. ALBERT GOLDSPOHN, of Chicago.

DR. I. S. STONE, of Washington, said the papers presented indicated that American gynecologists had turned their attention mostly to the practical side of important subjects; hence the pathology of pelvic and intra-abdominal diseases received only scant attention. He was glad Dr. Chase pointed out the difference between a multilocular cyst and the ordinary cystic ovary, as it was generally believed by the profession that the latter might take on a large accumulation of fluid. While he would not differ from Dr. Chase as to the amount of fluid contained in these cysts, yet he had sometimes seen cystic ovaries that were much larger than the doctor had stated and which ultimately developed into tumors.

DR. JAMES MCFADDEN GASTON, of Atlanta, related a case in which there was a history of the early development of a large amount of fluid in the abdomen. His attention was only called to the case after the abdomen was so completely occupied that it was very difficult to determine whether he had an ascitic accumulation to deal with or a cystic tumor. However, he made a puncture between the pubes and umbilicus, and found it was a well-defined abdominal tumor. He noticed, before the fluid had drained to a considerable extent, that the point of the trocar deviated from the median line. The woman became pregnant after the fluid was evacuated, and bore a child. The attending physician waited on her during confinement, and then found the existence of a tumor which nearly filled the abdomen. Dr. Gaston was called upon to operate on her, which he did, and the tumor proved to be a myxoma of the ovary.

DR. JOSEPH PRICE, of Philadelphia, said the paper of Dr. Chase was of great value, in that it dealt with the natural history and growth of cystomata and other forms of tumors; but the second paper (Dr. Goldspohn's) was clinically of great interest to him, because he had seen from time to time quite a

¹ See p. 657.

² See p. 648.

number of tubo-ovarian cysts. He had a specimen of tubo-ovarian cyst which he described as being "as large as a bag-pipe, with twisted pedicle." He alluded to this to emphasize the fact that tubo-ovarian cysts are more frequently found than is generally supposed. He should say from his own experience that he had met with tubo-ovarian cysts in more than ten per cent of his cases.

As to blood cysts, he had looked upon some of the varieties of this form of cyst as being quite virulent, and, profiting by his early experience, after witnessing the unfavorable results of others, he was more careful, particularly about the toilet and drainage, in this class of cases than with others.

DR. A. H. CORDIER, of Kansas City, read a paper on

MOVABLE KIDNEY: LOCAL AND REMOTE RESULTS.¹

THE LIMITS OF NEPHRORRHAPHY

is the subject of a paper by DR. HUGH M. TAYLOR, of Richmond, Va. He conceded the frequency of nephroptosis. Since he had been systematically looking for movable kidney he found it so frequent in its occurrence that he no longer regarded the experience of Glenard, Landau, Edebohls, and Noble as unique. His opinion was equally well fixed that only a small proportion of the cases met with give rise to symptoms or suffering, ill-health or death, and consequently a majority of cases do not call for nephrorrhaphy.

He favors the classification of nephroptosis under three clinical heads:

1. Patients who have displaced kidney, do not know it, and suffer no inconvenience whatever from it. This type, he thinks, represents by far the largest class.

2. Patients with displaced kidney, who may or may not know it, who suffer from gastro-enteric discomfort and perhaps a long train of vague neurotic disturbances. In this type he thinks we find the largest class calling for operative interference.

3. Patients with movable kidney who are subjects of occasional or frequent, mild or severe attacks of Dietel's or renal crises. This last-mentioned is, he thinks, the least frequent type met with, but the urgency of the symptoms more frequently demands operative interference.

A pertinent question was, he thought, Are the neurasthenia, gastro-enteric disorder, and renal crises invariably due to the displaced kidney? May not other morbid conditions produce the same effect? Is it not true that a multitude of factors other than movable kidney induce the same neurasthenia and gastro-enteric manifestations? Are we not justified in claiming that one of the dangers of the hour is the mistaking of nervous diseases due to other causes for those incident to nephroptosis? Many ovaries and tubes have been, and are to a lessened extent being, removed for the cure of neurosis which has its origin in

¹ See original article, p. 532, October number.

the brain and not the pelvis. Many kidneys, in his opinion, have been and will be anchored for the relief of neurasthenia due to some other morbid state. Nephrorrhaphy for the relief of neurasthenia must be limited by one's ability to differentiate between neurasthenia incident to nephroptosis and that due to some one or more of the many sources of neurasthenia; and until this perfection in diagnosis is attained many kidneys will be anchored in vain.

In the same manner many factors other than movable kidney may also induce gastro-enteric disorders. Dilatation of the stomach and nephroptosis are often associated. Which is the primary trouble? To which are the gastro-enteric disorders to be credited?

Nephrorrhaphy for the relief of gastro-enteric disorder is limited by our ability to tell to what extent the disorder is due to renal ptosis *per se* or to enteroptosis, or to some one of the many well-known etiological factors of gastro-enteric disorder. Nephrorrhaphy for the relief of the condition of Dietel's or renal crises must be limited by one's success in differentiating between this condition and that of gall tract, appendicular and kidney colic due to nephrolithiasis. He accepted as logically sustained the conclusion that the Dietel's or renal crisis is due to a kink or twist of the ureter with retained urine in the ureter and pelvis of the kidney. Apart from the violent paroxysms of pain (the renal crisis), the tendency of ureteral twist and urinary obstruction to induce hydronephrosis and in exceptional instances pyonephrosis rendered operative interference more imperative in this class of cases.

His protest was not against nephrorrhaphy, but only its abuse. He conceded the value of operative interference in many selected cases, but deprecated the tendency toward operative interference merely because the kidney is movable.

DR. GEORGE BEN JOHNSTON, of Richmond, Va., said that some years ago his attention was called to the subject under consideration by encountering several cases of movable kidney that had been unobserved by the medical men who had preceded him, and who had treated the cases for obscure nervous and gastro-intestinal disturbances. When he noticed a similarity of symptoms in the first three cases which came under his observation, he was obliged to associate those symptoms with the presence of movable kidney. He prevailed on these women to be operated on for movable kidney, and in all three cases the results were most gratifying.

His future searches were more diligent. He examined every woman that came to him for movable kidney, and was astonished at the number he discovered. He found that many women had movable kidney who were not cognizant of it. He believed it is within the bounds of correctness to say that at least twenty out of every one hundred women who present themselves for gynecological examination have movable kidney. The operation for anchoring the kidney, in his opinion, is exceedingly simple and entirely free from danger, but movable kidney furnished

such an abundant pretext for an operation that surgeons are tempted to operate oftentimes when it is not demanded.

DR. L. H. DUNNING, of Indianapolis, Ind., was greatly interested in the subject, for the reason that in the early eighties he had resorted to operative procedures for the cure of floating kidney, and in connection with this work he sought to determine, if possible, some of the causes which lead to movable kidney. He emphasized the importance of differentiating between floating and movable kidney. The former was always congenital, while the latter was acquired to a greater or less extent. He had made a careful examination of the kidney with its surroundings in the dead-house on animals and upon the living subject, and soon discovered that a partially fixed kidney would depend upon three or four causes, the two chief of which were, first, its position behind the peritoneum, and, second, the fact that it had an envelope of perinephritic cellulo-adipose tissue. A little further investigation showed that this perinephritic cellulo-adipose tissue was composed of two parts, one fixed, the other movable. The fixed part, lying against the posterior wall of the abdomen, served as a cushion upon which the kidney rested, and the movable portion completely enveloped the kidney. Furthermore, Dr. Dunning found that the kidney, when in a normal condition, had a range of motion of from one-half to three-quarters of an inch in its fatty envelope. He also discovered that by intermittent effort it was possible to elongate the movable portion of the fatty envelope, so that the kidney could be displaced one or two or even four inches without rupturing the fatty envelope. He had repeatedly demonstrated this fact, and thought it accounted to a large extent for the movable condition of the kidney.

In regard to nephrorrhaphy, he had done the operation twenty-five times upon selected cases and had found great benefit from its use; but he thought surgeons would have to limit the operation to suitable cases if they wish to obtain any benefit, especially in cases of intermittent hydronephrosis, those in which there is present obstinate constipation which cannot be referred to other causes, and those cases in which obstinate vomiting comes on periodically and the kidney is undergoing a comparatively wide range of motion.

Dr. Dunning expressed himself as having no faith in the use of pads or bandages for the treatment of movable kidney.

DR. WALTER P. MANTON, of Detroit, had never performed a nephrorrhaphy, but some fifteen years ago he became interested in the subject, and had been looking around for a fit subject to operate on ever since. He had seen women that were greatly emaciated, subjects of neurasthenia, many of them hysterical, and as soon as they were built up physically, as soon as the accumulation of fat had taken place around the kidney which had been referred to, they were relieved of their symptoms, whether the kidney trouble was relieved or not.

DR. THOMAS B. EASTMAN, of Indianapolis (by invitation), related the case of a woman, 25 years old, who came to see him

and presented a great many of the symptoms of appendicitis. She also had a considerable amount of albumin in the urine. Even after applying the points mentioned by Dr. Cordier he was still left in doubt as to the true nature of the trouble. An operation later on showed that the appendix was very firmly adherent to the kidney and that it took considerable force to get it loose. As soon as it was released the kidney bounded back into place as if on a rubber. The appendix was removed, the albumin in the urine ceased, and the woman made an uneventful recovery.

DR. JAMES MCFADDEN GASTON, of Atlanta, said his experience was almost *nil* as regards operative measures for movable kidney. He had seen several cases, and the liability of floating kidney being mistaken for a relaxed gall bladder was much greater than many physicians had formerly supposed. Dr. Gaston said the gall bladder was capable of being pushed back into the lumbar region and carried around in front in much the same manner that an alleged floating kidney could be carried about, and it therefore behooved gynecologists especially to look to this phase of the matter.

DR. W. E. B. DAVIS, of Birmingham, had seen a considerable number of cases of movable kidney, and when the subject was under discussion at the Charleston meeting of the Southern Surgical and Gynecological Association there was great diversity of opinion as to the frequency of the condition. Dr. Davis believed that Edebohls and others were correct as to the frequency of movable kidney, but as a rule the condition did not require operative interference in a considerable number of cases. Of the number of cases of movable kidney that had come under his observation, he had only anchored the kidney a few times. The procedure was simple, and if the surgeon did an unnecessary operation he had not subjected his patient to great danger. When we consider the nervous disturbance with which movable kidney is associated, it is readily seen how it can bring about local troubles; yet, if the kidney has a comparatively large range of motion, in the opinion of Dr. Davis, it must necessarily add to the irritation, just as a badly displaced uterus adds to the nervous condition of a patient; and inasmuch as an operation is practically devoid of danger, in doubtful cases it would be wise to fix the kidney, just as a gynecologist would operate to replace a uterus. It would remove part of the irritation and in this way assist in relieving the patient.

DR. I. S. STONE, of Washington, D. C., expressed himself as having great confidence in nephrorrhaphy for movable kidney. He had done the operation several times with excellent results. The improvement was marked following such an operation, and patients gained flesh rapidly.

DR. J. HENRY CARSTENS, of Detroit, agreed with Dr. Dunning that we should differentiate between movable and floating kidney. Like Dr. Stone, he had witnessed the most brilliant results in cases where the kidney was anchored, but the point

he desired to bring out was this: that the operator did not always meet with success in so doing, for the reason that the kidney did not stay in place. This fact has done more to discourage Dr. Carstens from resorting to the operation than anything else.

DR. W. E. B. DAVIS, of Birmingham, Ala., read a paper on

TREATMENT OF PERIUTERINE SEPTIC DISEASES.

Only recently has the extremely radical procedure of hysterectomy been practised in this country for septic diseases of the internal genitals. A wave, which had its origin in Paris at the hands of Péan, aided by Richelot, Ségond, Jacobs, and others, reached our shores three years ago and has found a considerable following among our leading operators. There has been much rivalry for some years in this country as to who could do the largest number of hysterectomies most successfully, but he would not say that it is possible this innovation was more readily embraced as it afforded great opportunity for such ambitious ones, who had almost ceased to be interested in the more simple operation of salpingo-oöphorectomy, to increase their cases of hysterectomy more rapidly. They claim that there is no use in leaving the uterus behind after the removal of the appendages; that "in every operation for septic diseases of the female generative organs which demands the removal of the tubes and ovaries hysterectomy should also be performed, unless there are plain contraindications forbidding it."

It should be the aim and pride of the surgeon to preserve everything consistent with thorough surgical work, and not to sacrifice important organs because it can be done with only a small mortality. We are told that the uterus has no function after the removal of the appendages, but this has not been demonstrated; and, on the contrary, we know that the sexual life of the woman is very much better preserved by leaving the uterus, and that the mental effect is also much better. A slow convalescence, or even a second operation, is preferable to its removal, unless very much diseased. It is a reflection on the correctness of the reports of complete recoveries of such a large per cent of cases by many most excellent surgeons, when the uterus was not removed, to accept the argument now being used in favor of hysterectomy in all these cases. As stated at the last meeting of the American Medical Association, "I cannot agree with Dr. Sutton and others that pus in the tubes is due to gonorrhea in seventy-five per cent of cases. I think that puerperal infection is the cause of more than fifty per cent. Tubercular infection is rarely the cause, and is not so important as has been claimed. However, the importance which is attached to gonorrhea is against the argument for the removal of the uterus, as the infection from this source is not deep and can be removed with the curette. Because some patients are not completely cured by the removal of the appendages is no argument for hysterectomy in every case where the bilateral

operation is required, for nearly all these can be relieved by a thorough curettage. Some large uteri will require, in addition to this, a high amputation of the cervix. Only a small number will need a hysterectomy."

Vaginal incision for the drainage of pus in the pelvis not confined to the tubes is a most valuable method of treatment in a well-recognized class of cases, and has been practised for a long time with gratifying results. A large number of these cases have required no further surgery. More recently large pus tubes and ovarian abscesses have been incised and drained through the vagina, with permanent recoveries in a good proportion of cases. The uterus should always be curetted at the same time. These are the very cases where the vaginal operation and hysterectomy have been recommended so highly by the French surgeons. Yet a considerable per cent of these can be relieved by vaginal incision and drainage. If not relieved the patient's condition will be made better by getting rid of the pus, and later on an abdominal operation can be done and the patient cured by the removal of the appendages—and perhaps of one side only. The uterus can nearly always be saved by this method of procedure, hence it is not best to do a radical vaginal operation at first. The object of the surgeon now should be, not so much toward still further reducing the death rate from the operation, but to relieve these cases and preserve as far as possible organs which have so much to do with the woman's health and happiness.

DR. L. H. DUNNING, of Indianapolis, Ind., read a paper entitled

SHALL HYSTERECTOMY BE PERFORMED IN INFLAMMATORY
DISEASES OF THE PELVIC ORGANS?¹

DR. E. F. FISH, of Milwaukee, Wis., read a paper entitled

SHALL THE UTERUS BE LEFT IN SITU IN EXCISION
OF THE ADNEXA?

This paper was a general defence of the uterus and an argument in favor of leaving it *in situ* if found healthy after excision of the appendages. The author takes up and considers the pathological conditions requiring hysterectomy after salpingo-oöphorectomy, as well as the conditions which do not require it. He argues against all operations which leave a degenerated uterus, such as Hegar's, Tait's, Martin's, and Robinson's, except under extreme conditions, and concludes in the following language:

1. That whenever it becomes necessary to excise the uterine adnexa, if the uterus is sound, leave it.
2. Whenever we excise the tubes and ovaries, and the uterus, though in a pathological condition, in our judgment will yield to treatment, leave it.

¹ See original article in this JOURNAL for October, p. 496.

3. Whenever it is necessary to do an abdominal hysterosalpingo-oöphorectomy and the cervix is healthy, do a supravaginal amputation, as this leaves the vaginal vault intact.

4. Whenever it is necessary to do a supravaginal amputation, suspend the cervix to the stumps of the broad ligaments, or anchor it to the abdominal wall, to prevent prolapsus vaginae.

5. Whenever it is necessary to do a general ablation, and the cervix uteri is unsound, remove the entire organ because of the danger of carcinoma.

6. Whenever a subserous or an interstitial myoma can be removed without too great damage to the uterus, do a myomectomy and leave the organ.

7. Whenever we excise the appendages and leave the uterus, ventral fixation is not an unsurgical operative conclusion.

8. Dr. Fish's reasons for leaving the uterus are: (a) that it helps to maintain the woman's sexual integrity; (b) it relieves the patient of much mental strain and is a prophylaxis to neurasthenia, melancholia, and insanity; (c) it tends to maintain the family ties unstrained; (d) it obviates the possibility of vaginal hernia, cystocele, and proctocele, and delays vaginal atrophy; and, last of all, it holds up and prevents shortening of the vagina.

DR. LEWIS S. McMurtry, of Louisville, said that the papers which had been presented were very important and that he had strong convictions on the subject. At the same time there were men, whose judgment and surgical ability he could not question, who differed as to methods of procedure. This difference was very great and of vital importance, and it therefore became necessary for gynecologists to view the whole situation carefully and discuss the subject fairly, impartially, and thoroughly. The question that presented itself was this, as to whether or not the best results in treating inflammatory disease of the pelvic organs could be attained by a suprapubic abdominal section or by the vaginal route. The approach of the pelvic organs surgically by the vagina was not new, for even Battey's operations at first were done through the vault of the vagina and were characterized as "normal ovariectomies," and all these years that pelvic surgery has been practised so successfully pelvic surgeons have recognized that in certain cases a life-saving procedure was necessary; that where a radical operation could not be done vaginal puncture and drainage was a valuable surgical procedure, and has been universally practised both in this country and elsewhere. So there is nothing absolutely new about the question of vaginal operation. The only feature that was new was as to the sacrifice of the uterus. Every one engaged in this work had recognized that the surgical treatment of suppurative inflammatory disease of the uterine adnexa was one of the most difficult and trying surgical procedures with which the gynecologist had to deal, and any method that would simplify or improve the procedure, render

it easier of accomplishment and more satisfactory in its results, would be very desirable.

Dr. McMurtry favored the abdominal route, and said that in his judgment a surgical operation directed upon those lines which would secure the recovery of the patient with the least sacrifice of organs, with the greatest preservation that is possible, and that would restore the patient permanently to health, should be resorted to.

DR. JOHN M. DUFF, of Pittsburg, said that he was one of the last in his district to take up vaginal hysterectomy. He commenced to do the operation a little against his own judgment, because everybody else there was doing it and it had become a fad. He had operated by the vaginal route quite a number of times, and his patients did so well that he had rarely resorted to the abdominal method since. At the Atlanta meeting of the American Medical Association, however, he made up his mind that he would go home and resort to both methods, putting his patients in bed side by side and comparing the results. His operations since this meeting had not been large enough in number to draw positive conclusions, such as he would like to draw before giving an opinion. No one has thoroughly convinced him as to the propriety of leaving the uterus after the removal of the appendages. However, there might be some good reasons why it should remain.

DR. J. HENRY CARSTENS, of Detroit, said that no one had a right to condemn the vaginal method of operating and say that it was incomplete, etc. No one could say that the operation was incomplete, and that the ultimate results would not be good, until he had thoroughly tried it. All innovators had been abused and ridiculed and hounded in every possible manner. Such men as Hegar, Tait, and Battey had been vilified in every possible way. Our own Price and other members of the Association had been called reckless and conscienceless. Péan, Ségond, and others had been subjected to the same abuse. This was not fair. These men were not all liars, and if they positively asserted that they had had so and so many hundred cases which were successful, their assertions should count for something and their suggestions should be thoroughly tried. After a fair trial every method would find its level.

Vaginal hysterectomy, in the opinion of Dr. Carstens, for pus tubes would show a smaller mortality and give better ultimate results than abdominal section. This was his present belief. He thought the cases should be selected, however. He believed in conservatism. In a young woman he believed in abdominal section and an effort to save, if only half a tube and half an ovary, while in women near the menopause vaginal hysterectomy should be the rule. In short, Dr. Carstens was decidedly in favor of vaginal hysterectomy in certain cases, and did not believe that all cases should be subjected to abdominal section, but that one class of cases should be subject to one operation and another to the other. No operative procedure should be condemned on theoretical grounds. No one

has a right to assert things about which he knows nothing. The gynecologist should try these methods honestly and faithfully, thoroughly understanding and mastering the technique.

DR. JOSEPH PRICE, of Philadelphia, looked upon vaginal surgery as absolute play, and said that extirpation of the uterus was one of the easiest of surgical operations. Vaginal operations were imperfect.

Regarding pelvic abscess, of nearly four thousand abdominal sections done by him he had never seen pelvic abscess independent of tubal and ovarian disease, except it was traumatic. However, we might have an abscess in the cellular tissue due to traumatism, but he had never found one due to inflammatory mischief alone. Vaginal incision and drainage was an old operation. He condemned the vaginal operation, not because his mortality influenced him, but because it was incomplete. The surgeon remained in perfect darkness as to what existed above. He said this in view of the fact that in a series of fifty-three cases of vaginal hysterectomy he had only one death.

As to appendicitis complicating tubal and ovarian disease, he believed that in every hundred abdominal sections for suppurating tubes and ovaries he had removed the appendix in at least six per cent of the cases.

DR. ALBERT GOLDSPOHN, of Chicago, agreed with Dr. Price that vaginal hysterectomy was an easy operation, yet he felt kindly toward it. Its ease was not a sufficient reason for sacrificing the uterus. If a woman had carcinoma of the uterus and knew that the disease, if allowed to progress, would sooner or later kill her, she would consent to the removal of this organ. But when it came to its removal for fibromata and other inflammatory troubles it made a decided difference to the woman. The uterus should be allowed to remain wherever it is possible to do so.

DR. GEORGE H. ROHÉ, of Sykesville, Md., thought it was a good deal easier to remove the uterus through the vagina than to do so from above, and this was the reason he preferred the vaginal to the abdominal method. In the few cases upon which he had operated in this manner it was better for the patients than if he had resorted to an abdominal section.

Regarding the statements made in the papers that patients who had had their appendages and uterus removed were in greater danger of becoming insane than those who had only their tubes and ovaries taken out, he desired facts produced upon which such statements were based. He did not think the essayists could produce data sufficiently reliable to warrant the statement that the removal of the uterine appendages, or the uterus itself, leads to insanity.

DR. A. B. MILLER, of Syracuse, referred to an article written by him and published in the September issue of this JOURNAL. (See page 340.)

DR. JAMES F. BALDWIN, of Columbus, O., stated that for several years he had been in the habit, where the uterus was distinctly diseased and there was a history of long-continued

trouble and enlargement of this organ (the hyperplasia of the old authors), of removing the uterus along with the appendages, and had never regretted it. He had never known any of his patients to become insane or to complain of loss of sexual appetite. He had taken a sharp curette and curetted the uterus before the class, had split the uterus in two in some cases and shown the class what he had, and the universal opinion was that simply curetting such uteri, and applying carbolic acid or any other acid, would never have restored such organs to a normal condition.

As to vaginal hysterectomy, he had operated at least twenty times by the vaginal route, doing his first operation in seventeen minutes, and was astonished at the ease and rapidity with which it could be done. At the same time this method did not seem to him surgical. When he performs abdominal hysterectomy he feels that he has accomplished a surgical achievement. When he works through the vagina he does not know the exact state of things above. He thinks he is trusting to Providence, and does not think he has done a good surgical operation; yet there is a fairly broad field for the vaginal route.

DR. WALTER P. MANTON, of Detroit, said that of the three or four thousand insane women that had come under his observation he could not recall a single instance in which the insanity could be traced either to the removal of the uterus or of the uterine appendages. In his own experience he had found during the last twelve years but two instances in which he regretted that he did not remove the uterus at the time of the primary operation. One of the women had a septic uterus which had given a great deal of trouble since, the other woman subsequently became infected by her husband; and he thought he could have obviated the trouble had he removed the two uteri in the first operations.

DR. J. WESLEY BOVÉE, of Washington, D. C., said he had placed himself on record at the Atlanta meeting of the American Medical Association as regards the relations of the two operations, the vaginal and the abdominal, and simply desired to state now that he had not modified the opinions then entertained. He thought there were one or two points that had been lost sight of in the discussion which had some bearing upon the subject. 1. An infected ligature sometimes caused trouble. 2. There was sometimes injury done to the ureters. It was not the uterus alone that gave trouble, for even after this organ was nicely and skilfully removed patients were not entirely cured in some cases.

DR. RUFUS B. HALL, of Cincinnati, O., believed that there was a place for the vaginal operation. In certain cases of cancer of the uterus vaginal hysterectomy not only afforded relief to the patient, but brought gratification to the surgeon. It had been his experience that women who had had their uteri removed did not become insane, but remained well for an indefinite period.

Regarding the abdominal route for bilateral disease of the appendages, when it is found that ninety-five per cent or thereabouts remain well after this method was resorted to, why should the uterus be removed? Dr. Hall preferred to do a hundred operations for bilateral disease of the appendages, and leave the uterus in every case, rather than to remove the uterus in the small percentage of cases where it is indicated. In some instances he believed it a good idea to remove the uterus, but it was exceedingly difficult to decide at all times in just what cases the organ should be removed. Like Dr. Baldwin, when he selected the abdominal route he felt that he had done a complete surgical operation.

The discussion was closed by the essayists.

DR. JOSEPH PRICE, of Philadelphia, Pa., delivered the President's address, taking for his subject

PRINCIPLES AND PROGRESS IN GYNECOLOGY.¹

DR. THOMAS E. MCARDLE, of Washington, D. C., read a paper on

ABDOMINAL SECTION FOR TUBERCULAR DISEASE.²

DR. J. B. MURPHY, of Chicago, said that his experience in the class of cases mentioned by Dr. McArdle had been very limited. He believed in the radical removal of the appendages and uterus for tuberculosis, whenever it was possible to do this operation without too much mutilation of the parts. In the cases that had come under his observation he considered it very difficult to remove the uterus, on account of the extensive adhesions. Some of his cases had recovered from removal of the tubes and ovaries without removal of the uterus. In every case there was extensive pelvic peritonitis with adhesions—that peculiar type of adhesions which is only seen in tuberculosis, and that is, at a distance from the tubercular centre the adhesion is soft and slimy, but as the surgeon approximates the tubercular centre it becomes more and more firm. He believed, with the essayist, that the uterus should be removed if the patient was in a condition to warrant it, but his experience had taught him that the removal of the tubes was all that was necessary in the majority of cases.

DR. JOSEPH PRICE, of Philadelphia, said that the experience of Dr. Murphy wholly agreed with that of the gynecologist as to the character of the adhesions encountered in cases of tubercular disease. It is exceptional to find tuberculosis studding the uterus; while the ovaries and tubes are simply riddled with tubercle, the peritoneum covering the uterus will present a clearly well-defined margin.

DR. W. E. B. DAVIS, of Birmingham, thought that the conclusions of the essayist were correct, that the uterus is seldom affected, and that it is secondary to the tubo-ovarian

¹ See p. 625.

² Will appear in December number.

involvement, and in doing an abdominal section all that is necessary in most cases is to remove the appendages and to drain. His experience had taught him that drainage would relieve a great many cases of tubercular peritonitis. If the uterus is involved in tuberculosis the surgeon could not do better than to resort to total ablation by the vagina, just as he would for carcinoma of the organ, and by so doing he would get the most effective drainage and relieve the patient of further trouble.

DR. I. S. STONE, of Washington, D. C., thought the essayist should have dealt with peritoneal tuberculosis, so that it could be included in the discussion. He was rather afraid that gynecologists were getting away from such careful and painstaking search for disease as Dr. McArdle had indicated would be desirable. He believed that gynecologists did not make use of the microscope enough to be sure as to their diagnosis, but even with the aid of this instrument physicians often failed to decide between cancerous and other diseases of the cervix, and that he, for one, would just as soon rely upon clinical evidence as upon the microscope, even though the symptoms be on the wrong side. He thought it was better to take out the uterus a little too soon rather than to leave it, so long as there was danger of extension of the disease to this organ. He saw a good many cases of tubercular disease, and it was seldom that he found anything which he considered tubercular disease of the vulva or cervix. He hoped the discussion would include peritoneal tuberculosis and its treatment by abdominal section.

DR. D. TOD GILLIAM, of Columbus, O., remarked that he should not have said anything on the subject, were it not for the fact that one of the speakers had referred to removing the uterus on account of adhesions. About ten months ago a woman came to him with general tubercular involvement of the tubes, ovaries, and pelvic viscera. He made an abdominal section and found the tissues densely matted together. He turned the patient over and attempted to make vaginal extirpation of the uterus by morcellement, and found it was as difficult a job as he had ever undertaken in his life. After cutting away the anterior uterine wall he found he could not roll out the uterus, but had to take it away piecemeal up to the fundus. He succeeded in getting away the involved tubes and ovaries, and was astonished subsequently to know that the patient was symptomatically well and that she was now doing general housework.

With reference to involvement of the peritoneum in tubercular disease, he believed that it was more frequently implicated than is generally supposed, but that the peritoneum had a wonderful resisting power against tuberculosis and would in many cases ward off the disease.

DR. H. W. LONGYEAR, of Detroit, said the etiology was exceedingly interesting and one which had not been advanced of late. It used to be said in cases of tuberculosis of the lungs that the patient received infection through the medium of the

air. The case of a young girl 15 years of age came under his observation in which it was entirely out of the question to say that she had received infection by way of the vagina through copulation, and she had no tubercular disease of the lungs. There was no tubercular disease in the history of the family on either side. In looking up the matter Dr. Longyear found she was peculiar in her diet; she lived in the country, and principally on milk, which was obtained from one milkman. She had been taking milk from the same source for several years. Being connected with the City Board of Health of Detroit, he sent a pathologist and a milk inspector to obtain specimens of the milk. The cattle were also examined and some of them were tubercular. It may seem a little far-fetched, but Dr. Longyear believed that tuberculosis may be transmitted through milk.

DR. JAMES F. BALDWIN, of Columbus, O., emphasized the importance of operating not only in cases of genital tuberculosis, but in all operable cases of this disease. The case mentioned by Dr. Gilliam was at first a very discouraging one, and yet the results obtained by him were gratifying. He had had a similar experience. He reported a case which he considered the most striking example he had ever met with of the benefits following operative procedure in cases of tuberculosis.

DR. JOSEPH HOFFMAN, of Philadelphia, directed attention to the symptomatology of tubercular peritonitis, saying it was very interesting, and that he did not know of a single condition that it did not feign from a symptomatological standpoint. He had seen it feign exactly extrauterine pregnancy, and, so far as pain and hectic were concerned, it simulated pus. In two or three cases which he had in mind he made a diagnosis of ectopic pregnancy by mistake, one disease simulating so closely the other.

The treatment of tubercular peritonitis locally was another point that deserved attention. One of the speakers had referred to the use of iodine. Dr. Hoffman thought in iodoform we had a much better drug than iodine. The application of iodoform seems to aid in clearing out the tubercular disease.

DR. RUFUS B. HALL, of Cincinnati, said that the fact that many if not a large majority of the cases operated upon for tuberculosis of the ovaries and tubes recovered and remained well without removal of the uterus, should deter gynecologists from making a more extensive operation which has for its object the removal of the uterus. He had seen a number of cases, similar to those mentioned by Dr. Murphy, where the adhesions were apparently extensive to the uterus, but the uterus itself did not seem to be implicated in the tubercular process along with the appendages. Therefore, in those cases in which the patient is badly broken down in health, the least operation the gynecologist could do for the patient the better were her chances for prompt recovery. It looked to Dr. Hall as doing unnecessary surgery to remove the uterus, if the patient could get well without it.

DR. WILLIAM H. MYERS, of Fort Wayne, Ind., emphasized the importance of operative measures in cases of tubercular peritonitis. At the meeting of the Association held in St. Louis he reported three cases of this disease that recovered after laparotomy and in which he used iodoform.

DR. W. G. MACDONALD, of Albany, disliked very much to disagree with Dr. Hoffman, but having had an opportunity to observe cases in which iodoform was used in the treatment of joint lesions, and having given it a faithful trial himself in tuberculosis of the knee, hip, and ankle, he had yet to see any favorable results from it.

With reference to removal of the uterus for tuberculosis, he agreed with Dr. Hall that some of the most unpromising cases, after removal of the appendages and drainage, get well without the uterus being sacrificed.

DR. ALBERT GOLDSPOHN, of Chicago, concurred in the sentiments expressed by Dr. Macdonald relative to the removal of the uterus. He had observed that many surgeons were inclined to think that the mere opening of the abdomen and getting the atmospheric effect upon the tuberculous structures were all that was necessary, and they were content with this. This, however, was not the whole duty of the gynecologist in case the tuberculous disease began in the tubes or the uterine appendages. It was his duty to remove the tubes and ovaries. We could not reasonably expect much good from mere incision and allowing the sun to shine in a few minutes and then inserting gauze or even iodoform. The curative powers of the peritoneum were very great.

DR. A. H. CORDIER, of Kansas City, Mo., said that if we did an operation for tubercular peritonitis and did not remove the adhesions we left the lower part of the jejunum adherent to the sigmoid, and with the likelihood of approximation of the lateral opening from jejunum into the sigmoid we had starvation of the patient following the operation, because the entire contents of the bowel passed from jejunum into the sigmoid and out through the rectum, the patient being starved from the absence of this large amount of absorbing surface between these two points. We should therefore remove all adhesions in operative tubercular peritonitis. Some gynecologists had referred to fluid being found in the peritoneum in cases of tuberculosis, but in the majority of cases which Dr. Cordier had seen the peritoneum had been dry and the abdomen not filled with fluid. This was a misleading point in the teachings heretofore.

DR. L. H. DUNNING, of Indianapolis, laid stress upon the importance of differentiating between the dry and moist varieties of tubercular peritonitis. In the dry form the adhesions were extensive and there was also a dry condition of the peritoneal cavity. In dealing with this form surgically—and his experience was limited to two cases—he said there was great danger from breaking up the adhesions of the bowel, for the reason that there was great friability and extensive involvement of the serous coats of the bowel, and immediately on

beginning to separate the adhesions the intestines were torn, making it incumbent on the surgeon to repair them. In both instances in which he had operated the patients died of general tuberculosis a short time after the operation.

DR. J. HENRY CARSTENS, of Detroit, said that in the present state of our knowledge we actually knew nothing about how tubercular peritonitis was cured. In treating these cases at first he tried different kinds of solutions. He tried bichloride, then iodoform, and even when he used nothing the patients got well. There was some peculiar condition beyond the knowledge of surgeons, and it was remarkable how some of the cases got well after simply opening the abdomen. Even after the tubes and ovaries were removed there were millions of miliary tubercles deposited over the bowels and the peritoneum, and not one-tenth part of the disease was removed by taking out the tubes and ovaries.

DR. J. W. LONG, of Richmond, Va., read a paper entitled

DYNAMIC ILEUS.

The author stated that intestinal obstruction had been variously classified, but he regarded the classification adopted by Murphy, of Chicago, as the simplest and the most rational.

1. Adynamic ileus, which is always the result of intestinal paralysis due to varying causes, may be clearly illustrated by such cases as those following injury to the spinal cord and septic paralysis due to peritonitis.

2. Dynamic ileus. This variety formed the subject of the paper and was discussed in detail by the author.

8. Mechanical ileus embraces such common lesions as strangulated hernia, intussusception, fecal impaction, etc.

We give below one of Dr. Long's cases :

Mrs. C. was brought to him on May 27th, 1896. She was 21 years old, had been married two years, but had never been pregnant. She was rather below the medium size and height. In temperament she was of the "spoiled"-child type, not hysterical, but rebellious. After admission to the hospital her obstreperous disposition required all the tact and firmness of a sagacious nurse. Early in April of this year the patient had malaria, followed by delayed menstruation, pelveo-abdominal pain, and obstinate constipation. The malarial and menstrual disturbances yielded promptly to treatment, but the abdominal pain continued and gradually the ileus symptoms became more and more pronounced. After exhausting every other measure to move the bowels the patient was given chloroform, and by means of a Ricketts tube the author succeeded in washing away a quantity of fecal matter; notwithstanding, there was no improvement, the nausea and vomiting recurred oftener and were more distressing. the pain and tenderness became worse, and a marked degree of tympany supervened. When she was brought to the hospital there had been no movement of the bowels for four weeks, except what was washed away with the colon tube while the patient was anesthetized.

The history justified the diagnosis of intestinal obstruction, while the urgency of the symptoms demanded an immediate operation. The abdomen was opened by a median incision. No mechanical obstruction could be found, although a careful search was made along the whole length of the intestine. The bowel was moderately distended with gas and congested. A singular feature, however, was that at three points—two in the ileum and one in the sigmoid flexure—the canal was contracted sufficient to constitute obstruction. In the ileum one of the constrictions was about fifteen inches from its lower end and six inches long; the other was nearer the jejunum and about four inches long. The lumen was not entirely closed at either point, but was greatly reduced, being less than half the normal size, while the diameter of the remaining portions of the bowel was increased on account of the distension with gas. No peristalsis was observed, but the contracted portions could be dilated by "milking" the intestinal contents along. In the sigmoid the limitations of the contracted portion were not so sharply defined, but the lesion was just as evident. The walls were thickened and the calibre much diminished. Incidentally a small ovarian cyst on the right side was discovered and removed. As the intestines had been handled a good deal, the abdomen was flushed with normal salt solution. The incision was closed with two tiers of sutures, silk for the peritoneum, and interrupted silver wire for the remaining layers. The recovery was most satisfactory in every way. The bowels responded to the usual laxatives and enemata on the second day, and from the first to last there was not a hitch in the patient's convalescence. She left the hospital in four weeks, and three weeks later took a trip to Alabama.

There could be discovered no evidence of lead or ptomaine poisoning.

DR. B. M. HYPES, of St. Louis, Mo., contributed a paper on
SPONTANEOUS RUPTURE OF UTERUS DURING LABOR AT TERM,
WITH SPECIMEN.¹

DR. BEDFORD BROWN, of Alexandria, Va. (by invitation), called attention to the action of ergot as a cause of rupture of the uterus, and cited a case in point. Some years ago he was called to see a woman in labor who was delicate, thin, and rather emaciated with tuberculosis. When he entered the room he found a midwife in charge. About two or three hours previously she had taken an enormous dose of ergot and was now having a good deal of pain. He made a digital examination, found that she was in labor and that there was a facial presentation, the head seeming to be firmly impacted in the pelvis. He barely touched the head of the fetus when it receded within the uterus beyond his reach. He suspected rupture of the uterus, which he found later had taken place, and the fetus had escaped within the abdominal cavity. The placenta remained

¹ Will appear in the December number.

in the uterus and was discharged, but before he could accomplish anything the woman was dead. The walls of the uterus were about one-eighth of an inch thick.

DR. R. W. MARTIN, of Lynchburg, Va. (by invitation), said that there was usually, in rupture of the uterus, a pathological condition with fatty degeneration of this organ. The violent pains, which may be increased by the administration of ergot, will give rise to rupture; but the main point to be considered was fatty degeneration which had already taken place in the uterine walls. These walls may be thin from various causes; there may be obstruction from the narrowing of the pelvis, obstruction from want of dilatation of the mouth of the uterus when labor has been prolonged. The labor pains may be so violent as to cause rupture on account of the weakened condition of the walls.

DR. C. A. L. REED, of Cincinnati, said that in one of the early volumes of the Transactions he had reported one or two cases of rupture of the uterus which had occurred in his practice. In neither of these cases was the record complete in all particulars, just as he believed the record of Dr. Hypes' case was incomplete in some of its details. From a careful study of the diseases peculiar to the placenta he was convinced that we find in that organ the initial condition which leads to the difficulties in the parenchyma of the uterus resulting in rupture. Of course he excluded those cases in which rupture occurs as a result of the combined force of obstruction and narrow pelvis, and violent contractions on part of the uterus. In those cases the obstruction nearly always occurs at the point of impingement between the head and os pubis—namely, at the ring of Bandl. He was convinced that fatty degeneration occurs in the placenta with a relative degree of frequency, and that that same condition extends to the uterus; and it would be interesting indeed to determine in those cases whether or not there is a fundal site to the placenta, and whether or not the fatty degeneration were not more or less restricted to the site of placental implantation. If that were true it would throw some light upon the etiology and pathology of this condition. In the two cases which he had reported during the earlier years of his experience as an abdominal surgeon he treated them both by closure of the rupture by Czerny-Lembert suture. One case recovered and the other died. Dr. Reed believed that cases of extensive mutilation of the uterus should be treated by extirpation.

DR. WALTER P. MANTON, of Detroit, had never had a case of rupture of the uterus in his own practice, but not long ago he was called to witness a post-mortem on a woman who had died suddenly in childbirth, and after hearing the history of the case he informed the attending physician that he thought he would find rupture of the uterus. The woman had previously borne several children, and prior to her last pregnancy she had suffered from endometritis and tubal trouble, for which a physician had treated her by electricity. The uterus was found

ruptured in this case at the cervico vaginal junction on the right side, the rent being sufficiently large to admit two or more fingers. Dr. Manton thought the electrical treatment might have had something to do with the rupture.

DR. JAMES F. BALDWIN, of Columbus, O., said his experience with rupture of the uterus was limited to two cases. He was in the office of a prominent surgeon when he was told of a case of labor which presented peculiar features. When the patient was first examined the fetus could be felt, but when an examination was made a little later it was found to have receded, and he told the doctor that it looked like a case of rupture of the uterus. The doctor thought not. The words were hardly out of his mouth when the attending physician came to his office and said he wished him to go at once to see the woman, as she was not doing well. The next day Dr. Baldwin was invited to witness the post-mortem, and his surmise was correct. There was rupture of the uterus with escape of the child into the abdominal cavity. The physician in charge introduced his hand, caught the child by the feet, and delivered it through the natural passages. This case occurred a good many years ago. The autopsy revealed a small fibroid in the anterior wall of the uterus just above the junction of the bladder, and it was at this point that rupture had taken place. Dr. Baldwin said that the presence of fibroids had been put down in the books as one of the causes of uterine rupture. He also reported another interesting case.

DR. WALTER B. DORSETT, of St. Louis, said the case reported by Dr. Hypes was interesting on account of the location of the tear, in that most of these ruptures occurred anteriorly and were largely due to the anatomical construction of the muscular fibres, the longitudinal and transverse fibres of the neck coming together at that point.

He had seen two cases that had been operated on two years ago. Rupture of the uterus was due to contraction of the organ in these cases, no ergot having been given. In one case the woman had been in labor seventy-two hours and every effort was made to deliver the hydrocephalic child. Forceps were applied a number of times, when Dr. Dorsett was called in. He tried to turn, to see if he could deliver the child in that way. When placed upon the table he examined her, and noticed that the general contour of the abdomen had changed materially, that it had become elongated. The fundus of the uterus was near the ensiform cartilage, and he called the attention of the house surgeon to the fact of the change. Rupture of the uterus was diagnosed, the abdomen opened, and the right arm of the child up to the shoulder was found out of the uterus. The tear was longitudinal and in front, just at the junction of the bladder with the uterus. It was impossible to deliver the child through the small opening. Another opening was therefore made longitudinally and the child extracted. The child was dead, and probably had been for some hours. The measurement of the child's head was nineteen and a quarter inches

in circumference just above the ears and the bones of the head were soft. The rupture was due in this case, not to the use of forceps, but to the length of time the woman was in labor together with the violent uterine contractions. Dr. Dorsett then cited another case.

DR. JOHN M. DUFF, of Pittsburg, cited a case of rupture of the fundus of the uterus, the only one he had ever seen. He had reported the case in detail on a previous occasion, but did not remember the exact data now. He thought that ruptures of the uterus were more frequent than many practitioners supposed.

DR. A. H. MEISENBACH, of St. Louis, Mo. (by invitation), went into the details of the case reported by Dr. Hypes, and said it was the first one of rupture of the uterus that had come within the range of his experience during some twenty years of both private and hospital practice. Before leaving St. Louis to attend the meeting he had received a brochure by Koblanck, of Berlin, giving some interesting points in regard to eight cases of rupture of the uterus which he had analyzed. As far as the etiology of rupture of the uterus is concerned, he divides these ruptures into spontaneous and violent. The number of spontaneous ruptures produced by narrow pelvis amounted to eight; transverse positions, seven; other positions, four; hydrocephalus, four; disproportion in the size of the parts presenting within the tract and of the parts of the mother, three; the effects of sequelæ, one. Of those due to violent rupture he relegates five to trauma and twenty-nine to version or turning, ten to forceps, and one complicated with myoma, so that the majority of cases of rupture of the uterus are due to version or manual turning.

As far as the pathological changes are concerned within the uterine wall, Koblanck has found that there is nothing positively definite. In the microscopical examination of these cases fatty degeneration is reported as being one of the causes of uterine rupture, yet Koblanck makes the assertion that in the examinations he has made he has failed to detect positive evidence or indications of fatty degeneration of the uterine tissue.

The way to deal with rupture of the uterus, in Dr. Meisenbach's opinion, is to resort to either one of two procedures—to tampon the uterus, after clearing it out, with gauze tampon; to do a laparotomy or a Porro operation. The conditions encountered must be the guide for the particular operation.

DR. RUFUS B. HALL, of Cincinnati, said about five years ago he was asked by a physician in Cincinnati to see a woman who had been in labor two or three hours, but the reason he was called was on account of a tumor which the attending physician took to be a uterine fibroid. On arriving at the house it was found that the woman had a rupture of the uterus and the child was in the abdominal cavity. The fibroid was in the lower segment of the uterus, with the child lying crosswise in the abdominal cavity. The woman died three or four minutes

before he had entered the house. This was the only case that had ever come under his observation. He and the attending physician wanted to open the abdomen to remove the baby, but they were not permitted to do so.

DR. JOSEPH HOFFMAN, of Philadelphia, had encountered three cases of rupture of the uterus. In two of the cases he resorted to version or turning and caused rupture. Version, in Dr. Hoffman's opinion, is not as simple as it is laid down in the text books, and he says it is a dangerous procedure in certain conditions, particularly in the case of large children and extreme uterine contractions. A second case of rupture of the uterus that he had knowledge of had been in the hands of a midwife, who had given ergot in connection with the use of the forceps by two other medical men. He was called in to deliver the child after they had failed, and in introducing his hand to make version pulled down the intestines. The rupture in this case, so far as its location was concerned, is interesting in that it was in the posterior segment of the uterus above the ring of Bandl, about half-way up.

A third case of rupture of the uterus was one which occurred just a few weeks since in the wife of a physician in Philadelphia, who had not gone into labor. The rupture occurred in the extreme fundus of the uterus, and the woman never had labor pains. The cause nobody knows.

DR. JAMES MCFADDEN GASTON, of Atlanta, had never met with a case of rupture of the uterus. He had resorted to version repeatedly; he had given ergot often in the early period of his country practice, and it was his habit to use ergot in almost every case of tardy labor to save time, but had never seen any bad results from its use. We must account for these cases of rupture of the uterus upon the basis of pathological conditions. He does not think that the ordinary results of manipulation, or anything of this kind, are responsible for these ruptures.

DR. HYPES closed the discussion, saying that he favored the use of ergot only after the uterus had been emptied of the child and the placenta.

DR. EDWIN RICKETTS, of Cincinnati, contributed a paper entitled

**PORRO'S OPERATION AT OR NEAR THE FIFTH MONTH FOR SMALL
FIBROID OF CERVIX, ACCOMPANIED BY HYDRAMNIOS
AND TOTAL RETENTION OF URINE.¹**

DR. W. G. MACDONALD, of Albany, had done three Porro operations in the last four years. One of the cases was somewhat similar to the one reported by Dr. Ricketts, where there was a considerable fibroid blocking the pelvis, it being of much interest in that no knowledge of the condition which existed was had until the time of delivery. The woman was attended some thirty-six hours by her own physician, who discovered at the time that there was something apparently wrong. A con-

¹ See p. 690.

sultant was called, chloroform given, careful examination made, and away up above the symphysis a tumor was felt. Dr. Macdonald operated the following morning, and after opening the abdomen and making an examination he found it impossible to deliver the child naturally. He pulled up the uterus and with it the fibroid, which absolutely filled the pelvis. The child was delivered dead. In this case Dr. Macdonald used a clamp, and said that when he puts on a clamp in a case of hysterectomy he can put the woman back to bed, and the wound will heal up with much less shock than when he treats the pedicle intraperitoneally. Other cases were reported by Dr. Macdonald.

DR. WM. H. MYERS, of Fort Wayne, Ind., was interested in this subject from the fact that he had had one case of Porro in which he resorted to the same method of using the ligature, and afterward the *serre-neud* that the doctor speaks of. In this case the operation was done in a hovel without very much assistance, and yet the woman made a splendid recovery and the child is living.

DR. J. HENRY CARSTENS, of Detroit, said that if he understood the details of Dr. Ricketts' case it was one of hydramnios with a small fibroid. The question arose in his mind whether this was a suitable case in which to do a Porro operation and whether the procedure was justifiable. Personally he had grave doubts about it. The Association ought not to allow the thing to go out that this was the right kind of operation for a common, every-day case of hydramnios. He believed that we can open the uterus, let out the water, and save the woman, without subjecting her to such an operation, and if there be a fibroid tumor present it should be removed when the woman is in proper condition to withstand the operation.

DR. JOHN M. DUFF, of Pittsburg, cited a case in which he and his assistant did a Porro operation. The woman had been under the care of a midwife for thirty-six hours before he was called in; forceps had been used. The child was dead at the time. After the operation the woman never had a temperature above $99\frac{1}{2}^{\circ}$ and made an excellent recovery. At the end of three weeks she went home perfectly well.

DR. H. W. LONGYEAR, of Detroit, said that Dr. Ricketts' method of treating this case of fibroid might be criticised upon the basis of the dilatability of the cervical canal. If the cervix was in such shape that he could dilate it and extract the fetus, as well as let the water out, this should have been done instead of resorting to a Porro operation. But if he could not do it Dr. Longyear thought he was justified in performing a Porro.

DR. ALBERT GOLDSPOHN, of Chicago, said he could readily imagine conditions where the uterus would be immensely distended, the cervix drawn high up, displaced anteriorly or laterally, so that cervical dilatation would be quite impossible.

With regard to comparison between symphyseotomy and a Porro, the former would save a woman's life occasionally when a Porro could not be done. Dr. Goldspohn then related a case in

which he had performed symphyseotomy, saving the woman's life and also that of the child.

DR. J. W. LONG, of Richmond, Va., reported a case in which he performed a Porro operation on December 26th, 1893. The operation was done in a negro cabin in North Carolina. The woman was three months pregnant, and there were complicating the pregnancy five or six fibroid tumors, these being so situated as to fill the pelvis and making it impossible to have delivered the child. He made a supravaginal section, stitched the pedicle, dropped it back, closed the abdomen without drainage, and the woman made an uninterrupted recovery.

DR. JAMES F. BALDWIN, of Columbus, O., reported a case of Porro which he did some seven years ago, the case being that of a rachitic dwarf. The operation was performed about 2 o'clock in the morning, in a cellar a little worse than the negro cabin referred to. The operation was exceedingly easy, as all would admit who had done this operation, and the woman made an uninterrupted recovery. After some months there developed a hernia, which is now the size of a man's fist. It annoys the patient, but she declines to have an operation done for it. A Porro operation where the pedicle is fastened in the lower angle of the incision is the operation of emergency. It is an operation that can be performed by any country physician who possesses a reasonable amount of skill, in the opinion of Dr. Baldwin.

DR. JOSEPH HOFFMAN, of Philadelphia, said in dealing with a fibroid of the cervix we might have one much larger than that encountered by Dr. Ricketts in his case. If we had a case of difficult labor, where the head of the child markedly impinged on the cervix or where the cervix had been injured extensively by instruments, we were liable to have subsequently a case of stenosis of the os which would render delivery of the child impossible. He said that Dr. Joseph Price had had a case in Richmond, Va., in which it was necessary to make an incision through the anterior abdominal wall to deliver the child. The woman had been in labor for sixty hours, and died of sepsis. If we had a fibroid in the cervix and simply removed it, by so doing we might do such damage to the cervix as to cause stenosis of the os, and a subsequent pregnancy might endanger the woman's life more than any operation could possibly do for entire ablation of the uterus.

DR. JOSEPH PRICE, of Philadelphia, said the patient referred to by Dr. Hoffman had had another operation done for a metro-abdominal fistula, and in her next labor this fistulous opening was enlarged by the attending physician and the child delivered through the anterior abdominal wall. In the opinion of Dr. Price the woman should have had a Porro in the first place. In his practice he has had seven Porros, five for the removal of fibroids and two on account of deformity.

With reference to the case reported by Dr. Ricketts, as Dr. Ricketts' judgment was good and his experience large, the members had no right to criticise the course pursued by him in

this particular case. The indications may have been such as to have justified a Porro operation. It was his impression that the object of Dr. Ricketts was to relieve the woman of her burden, and, if so, his procedure was correct.

DR. LONGYEAR asked Dr. Price as to his results relative to post-operative hernias where the Koeberle method was used.

DR. PRICE replied that he had seen more ventral hernias about the umbilicus—probably two to one—in those women who had hysterectomy performed. He had had two operations for hernia following the use of the Koeberle neud. This brought up the interesting question that now and then surgeons would allude to hernias following the use of the drainage tube. If surgeons carefully studied their cases they would find hernia in the upper part of the incision oftener than about the seat of the drainage tube.

DR. RICKETTS, in closing, said, in looking at the case he had reported from every point of view, he was more and more convinced that a Porro was the operation to do. With the condition found in the pelvis, with the accelerated pulse and rise of temperature, he believed that if total extirpation of the uterus had been performed the patient would have been lost. He did not wish to go on record as advocating a Porro operation in every case—not at all. The operator must be the one to decide that.

ATRESIA WITH RETENTION OF THE MENSES ; TREATMENT

is the title of a paper by DR. W. H. MYERS, of Fort Wayne, Ind. The author reported two cases of atresia, one with absence of the vagina and uterus and the other with retained menstrual fluid. The last case was operated upon successfully. He believed that in a case of atresia of the vagina with retention of menstrual fluid in the uterus, an operation ought to be completed at one sitting, adopting the direct method. He thought the teaching in a recent work, that "the best way is to make a small opening into the mass and allow the contents to flow away gradually," is unsound. He could not, therefore, see in rapid evacuation such great dangers as are referred to in the books.

DR. H. W. LONGYEAR, of Detroit, read a paper entitled

TREATMENT OF PUERPERAL INFECTION.¹

DR. C. A. L. REED said that drainage was one of the essential principles in the treatment of the cases under consideration, and he believed a useful practice is to secure drainage by capillary processes and packing. This, however, is not always satisfactory. He had been in the habit of curetting these cases with a dull curette, preferably the Emmet forceps curette, and removing by that means the adherent pieces of placenta. By the use of this instrument small placental fragments could be removed without serious damage to the underlying tissues. Following the curettement he packs the uterine cavity with a

¹ See original article in this JOURNAL for October, p. 481.

narrow ribbon saturated with pure carbolic acid, and by so doing gets the superficial escharotic effect of the acid as well as its profound antiseptic qualities. This is permitted to remain for twenty-four hours, when it is removed and the uterine cavity is irrigated with peroxide of hydrogen, and if the cervix remains patulous, as it generally does, a ribbon saturated with carbolized glycerin is again inserted.

DR. WALTER B. DORSETT condemned the use of the blunt curette, believing that there was not an instrument in the shops calculated to do more damage than it. He did not think the average gynecologist could use the placental forceps exhibited by Dr. Longyear without doing more or less damage to the endometrium. Placental forceps are used for the purpose of extracting loose pieces of placenta and membrane, and not for removing portions of placenta that are tightly adherent to the wall of the uterus. The instrument shown was sharp, and its teeth could do nothing but damage to the tissues with which it was brought in contact.

We should make a distinction between packing and drainage, and simply introducing a gauze drain. He condemned packing the uterus, but saw no objection to introducing a candle wick, drawn to the fundus of the uterus, leaving it in sufficiently long to absorb such material as there was in the uterus, and permitting the material to come away by capillary traction.

Relative to serum therapy, he had tried it in two cases, the result being gratifying in one case.

DR. JOHN M. DUFF said that, while Dr. Longyear's instruments displayed considerable ingenuity, he could not see how his forceps was a safe one except in the hands of experts. It was too sharp. It could not be introduced into the fundus by the ordinary practitioner without lacerating the parts more or less. Dr. Longyear, however, could undoubtedly use it skillfully. He believed there was entirely too much curetting and washing out of the uterus subsequent to labor. We must make a distinction between those cases in which we have the introduction of streptococci and those in which we have the absorption of ptomaines from the uterus itself.

DR. WALTER B. CHASE, of Brooklyn, was interested in the remarks made by Dr. Reed concerning drainage. He believed it was becoming more and more customary with surgeons in the East to resort to the downward rather than the upward method of drainage, and personally he was convinced that it has some advantages.

DR. I. S. STONE thought the forceps exhibited by Dr. Longyear was exceedingly useful, for the reason that it would not injure the healthy endometrium. He opposed the use of the sharp curette in such cases as had been referred to.

The treatment of diphtheria by antitoxin had been proven, but he did not think we could say the same for antitoxin in the treatment of puerperal infection. It was as yet in the experimental stage. However, it is to the credit of surgery that surgeons are now studying preventive medicine more than for-

merly. There is no reason why some one should not try to cure cases of puerperal infection by antitoxin, and he hoped some such method of treatment would be devised. The success met with by Dr. Longyear in treating his cases with antitoxin did not prove the case.

DR. J. H. BRANHAM, of Baltimore, considered puerperal infection one of the most important subjects that could be brought before the Association for discussion. The severe cases did not seem to get well even after the uterus was cleaned out, etc. He carefully examined the inside of the uterus, swabbed the uterine cavity out thoroughly with pledgets of cotton soaked in bichloride solution 1:3000. He also used iodine and carbolic acid solution, and in a large number of cases thought this all that was necessary. He had had experience with two epidemics of puerperal fever, one when he first began to practise and the other about three years ago. The cases were bad ones to deal with. They had deposits of a diphtheritic-like membrane all over the cervix and vagina, and sometimes the vulva was involved, and in order to remove such deposits it was necessary to keep working at it all the time. In introducing the finger into the uterus in such cases, at the placental site it is hard, indurated. If the practitioner scrapes away the deposit it will be found to be grayish. The patient's temperature is tolerably high, with pulse correspondingly rapid and weak. While these cases are not so frequently met with as others, they do not show much improvement after instituting the first treatment, but he believed they could nearly all be cured by persistent effort. The uterus should be kept clean all the time. He had not been able to obtain permanent relief for his patients by any kind of drainage.

DR. MYERS asked whether he regarded puerperal septicemia as autogenetic or heterogenetic.

DR. BRANHAM replied that in the cases he referred to the infection was produced by the streptococcus and staphylococcus.

DR. JOSEPH HOFFMAN said that the whole thing could be summed up in this manner: that in ninety-nine cases out of a hundred where puerperal sepsis occurred in hospitals meddlesome antiseptics and the obstetrician himself were at the back of it. There might be an escape of pus from a pre-existing pus tube, but that should be considered as an accident.

DR. D. TOD GILLIAM said that there was one phase of the subject which had not been touched upon—namely, that the endometrium was not a mucous membrane but a glandular structure; that the uterus was the drainage organ of the body; that there was a tendency for things to go out of the uterus instead of going into the system from the uterus. In the majority of cases the uterus would clear itself, and he thought by applying caustics there was a tendency to seal up the uterine cavity. We ought to allow fluid to flow into and out of the uterus instead of sealing it up. He never used the curette in removing débris from the uterine cavity, but his finger nail.

DR. ALBERT GOLDSPOHN spoke of the importance of making a distinction between the puerperal uterus and the gynecological or non-puerperal uterus. The subject under discussion was the treatment of the puerperal uterus, which had been in the main correctly outlined by the essayist; while the treatment suggested by Dr. Dorsett was that adapted to the non-puerperal uterus. If any members had any doubt in regard to the composition of these uteri, he would like them to take an extirpated uterus for incipient carcinoma and examine the thickness of its walls, its consistence, the smoothness of its interior, the nature of its lining, and they would find that it would be like a wall covered with velvet. It needs a sharp spoon to remove the lining of such a uterus. Let them then take the puerperal uterus, and they would find it like a thick rubber ball lined with sheepskin which was big enough to line a ball two or three times as large. This extensive lining, in the course of a few hours, is crimped up into a much smaller circumference. Any one curetting such a uterus would not know whether it was a vestige of secundines or a fold of mucous membrane that he was scraping. Scraping such a uterus was like raking sheepskin out of such a ball with a buttonhook, and the practitioner, by so doing, was ploughing furrows for infection. He had declared time and again that the Emmet curette forceps was worth its weight in gold for the class of cases under discussion.

DR. WALTER P. MANTON was a firm believer in the use of the curette. He considered the instrument exhibited by Dr. Longyear a very valuable and useful one. The man who could not use a sharp curette in a puerperal uterus without punching and gouging the parts could not successfully practise obstetrics. In his experience the careful application of the sharp curette was exceedingly useful. He was sure that he had saved lives by the judicious use of the sharp curette when all other measures previously tried had failed. The gynecologist must make a distinction between the old-fashioned condition of sapremia and septicemia. In a case of septicemia it might not be advisable to curette the uterus, but it would depend largely upon the case. In a case of sapremia, where the infection is poured out in small quantities and at intervals into the circulation, the curette in his experience was always useful.

About a year ago he advocated packing the uterus with gauze after the use of the curette. He was misunderstood at that time. He did not mean that the uterus should be packed tightly, but loosely, the gauze being brought out at the external os.

DR. WALTER B. DORSETT said he hoped no one would think that he would curette the puerperal uterus all the way around, but he would claim this, that if a piece of placental tissue was attached tightly to the wall of the uterus it would not be removed with a dull curette.

DR. A. B. MILLER, of Syracuse, said that in cases of puerperal infection we had a pathological condition to deal with,

and that there must be some cause for the infection. If we recognized puerperal infection as being due to the streptococcus or other germs, the germs of necessity must have been introduced into the birth canal either by the accoucheur, instruments, or in some other manner. He believed, with one of the preceding speakers, that the uterus is a glandular organ and will ordinarily take care of itself. As a matter of preventive medicine, however, it was our duty to determine some means whereby the disease could be arrested before it becomes necessary to resort to means to overcome the systemic infection. If we have infection arising from the streptococcus, unless it is arrested in the beginning the infection will spread to other tissues, necessitating more radical measures for its removal.

DR. JOSEPH PRICE laid stress on the importance of having, if possible, greater uniformity of opinion in regard to puerperal infection, saying that in medical societies nothing but confusion and chaos existed among the general profession, and in a discussion of this character such men looked for light from specialists and it was the duty of the latter to give it to them. He was satisfied that the obstetrician is responsible for sepsis and death in many cases.

DR. LONGYEAR, in closing, said the sharp curette should be avoided in a puerperal uterus, as it was altogether a different surface, and, as it was rough and soft, the practitioner was liable to do injury with such an instrument. All one needs to do is to remove the foreign substance lying upon it or adherent to it.

DR. CHARLES A. L. REED, of Cincinnati, O., read a paper on
MELANO-SARCOMA OF THE FEMALE URETHRA; URETHRECTOMY;
RECOVERY.¹

DR. GEORGE H. ROHÉ, of Sykesville, Md., read a paper on
SOME CAUSES OF INSANITY IN WOMEN.¹

DR. WALTER P. MANTON, of Detroit, Mich., read a paper on
THE RELATION OF VISCERAL DISORDERS TO THE DELUSIONS
OF THE INSANE.¹

DR. DAVID TOD GILLIAM, of Columbus, O., read a paper
entitled

OÖPHORECTOMY FOR THE INSANE AND EPILEPSY OF THE
FEMALE: A PLEA FOR ITS MORE GENERAL ADOPTION.²

DR. JAMES F. BALDWIN, of Columbus, O., read a paper on
THE TREATMENT OF THE STUMP TO PREVENT ADHESIONS.³

¹ Will appear in the December number.

² See original article in this JOURNAL for October, p. 555.

³ See p. 682.

DR. B. SHERWOOD DUNN, of Los Angeles, Cal., contributed a paper on

VAGINAL HYSTERECTOMY BY THE CLAMP METHOD.¹

DR. M. ROSENWASSER, of Cleveland, O., presented a
REPORT OF THREE CASES OF UTERINE FIBROIDS COMPLICATED
BY PREGNANCY.²

THE SUTURE OF LARGE VESSELS INJURED IN OPERATIONS.

DR. J. B. MURPHY, of Chicago, discoursed on this subject, demonstrating the method employed by him. As surgeons we had all undoubtedly been impressed with the method of treatment of injuries of large vessels, produced both by accidents and operations. Heretofore the treatment had been ligation and obliteration of the canal. If we injure a vessel which is of vital importance to the extremity, we are in duty bound to sacrifice that extremity or retain the continuity of the current of the vessel injured.

In 1762 Lambert conceived the idea of suturing injuries to vessels. He made two experiments, in both of which he failed. Dr. Murphy then referred briefly to the experimental work of several surgeons along this line, pointing out their failures. His researches and operative work led him to believe that, where a large vessel is injured in an operation necessitating a transverse division of it, not exceeding two-thirds of its circumference, the surgeon can resort to immediate suture without resection, and, if the field of operation be aseptic, can feel more certain that he will have union of the vessel and continuation of the current than when he sutures the intestine as for resection of the bowel. He believed from his observations that the chances are better with the suture. The importance of this concerns surgeons more in the treatment of aneurisms.

Coming to the question of stab and bullet wounds of the extremities, he said there was a great field for improvement in post-operative work. Formerly vessels were ligated, and when this was done the inevitable result was death of the limb. He believed that now such limbs can be uniformly saved, particularly in the aseptic cases. With his present method of suturing large vessels he is not afraid to suture any large vessel in the body, feeling confident that adhesion or union will take place.

The technique of the work is very delicate. The most trying part in his original experimental work was to get the technique sufficiently fine and handle the vessels with utmost care so that the intima would not be injured. He made longitudinal incisions in his first experiments and closed them with either interrupted or continuous suture, and the latter was most satisfactory. How much of a large vessel could there be destroyed and the ends still approximated? In the carotid of the dog and cat

¹ See original article in this JOURNAL for October, p. 509.

² Will appear in the December number.

he found he could resect an inch and a half of the artery and still bring it in apposition, secure it, and there would not be sufficient tension to produce tearing of the suture. In the femoral vessel of the dog, which is small, he could remove about the same length of the vessel and still be able to bring the ends in apposition. The femoral of the dog, however, is not a good vessel to suture, on account of its small size, and the surgeon is therefore likely to have immediately following the suture of this vessel thrombosis and obliteration of it.

The best way to approximate the ends of the vessel is with silk suture, using for this purpose the conjunctival needle employed by oculists, which is round and has a full curve. This needle can be used advantageously when the vessel is large and the surgeon is not likely to injure the intima. The danger of injuring the intima is considerable, not on account of the immediate bleeding from around the sutures, as had happened with Glück, but from the endarteritis produced.

Dr. Murphy said that he had completely divided the carotid artery of a calf and had made a successful end-to-end approximation of the vessel, which he believed is the first successful attempt that has ever been made. He showed the manner in which the vessel was invaginated.

DR. W. G. MACDONALD, of Albany, thought there were limitations to the employment of Dr. Murphy's method, but said that if we could only resort to it in operations for extirpation of the cancerous breast, where it is necessary to uncover the parts very thoroughly and by so doing it was not uncommon to tear into a vessel, it would be a valuable and exceedingly useful surgical procedure. In certain accidents associated with dislocation of the shoulder joint, traumatic aneurism, etc., we could use the same method and a large number of limbs might be saved. Just how the healed surfaces in arteries would behave themselves after a period of months under intra-arterial pressure was a matter that should be considered, and whether or not we might have following it, particularly in the cases where invagination has been employed, the condition of aneurism. It seems reasonable that the scar tissue which the surgeon makes in closing a wound, even in the long axis of the blood vessel, might very readily give way under the continued pressure to which it is subjected.

Dr. Macdonald said the method was certainly one which presented a number of interesting features, and the members of the Association could only hope that Dr. Murphy might be as successful in suturing large arteries as he had been in the development of methods for intestinal work.

DR. JAMES MCFADDEN GASTON, of Atlanta, asked Dr. Murphy whether in his experimental work he had tested the effect of pressure on the cardiac side of the injured vessel when attempting its restoration, lessening thereby the impulse of the blood against that portion of the vessel which was wounded or had been divided for experimental purposes. All surgeons had an opportunity of watching an effect of this kind in their

work with reference to aneurism. While it lessens the force of impulse of the blood, it does not materially favor thrombosis beyond the point at which the pressure is used. In treating aneurism by compression he had failed to succeed in obliterating the aneurism and invariably had to ligate to control the aneurism. In such cases the method of Dr. Murphy might be used in a very satisfactory way by fastening the upper into the lower portion of the artery by division of its edges and suturing them together, and then by lessening the impulse of the blood for a few days or weeks it might materially promote the object of restoring the coats of the vessel.

DR. W. E. B. DAVIS, of Birmingham, Ala., thought much good was going to be accomplished by such work as had been so ably demonstrated by Dr. Murphy, and that it was a line of work which he was going to take up in an experimental way.

DR. MURPHY, in replying to Dr. Gaston, said he had not made any experiments along the line of lessening the blood current. He would say, however, that the great danger is from thrombosis, and that if our theory formerly of lessening the current favored that, it would be contraindicated.

DR. W. G. MACDONALD, of Albany, N. Y., contributed a paper on

CONTUSIONS OF THE ABDOMEN.¹

DR. J. B. MURPHY, of Chicago, congratulated Dr. Macdonald on his excellent paper, but condoled with him in the fact that surgeons were in a hopeless condition, in this class of cases, as to diagnosis. It was exceedingly difficult to make a positive diagnosis sufficiently early to operate in time. He had had a considerable number of such cases as had been reported, and recalled only one that recovered. This patient was kicked in the scrotum, where he had a hernia, and it ruptured. The hernia was reduced and the contents of the intestine escaped into the abdomen. There was circumscribed peritonitis in one corner of the abdomen. This case was operated on early and the patient's life saved, but in the majority of cases that he had operated upon the patients died. He had found no symptom or symptoms upon which he could absolutely rely. The last case he saw was a man who fell four stories. He thought he had ruptured some of the abdominal viscera. He looked like it. He vomited, had intense pain in the abdomen, no blood in his urine, and Dr. Murphy felt that the following morning he would be dead. To his surprise the man was all right and has been so ever since. He deprecated the use of morphia in contusions of the abdomen, for the reason that if the patient had a perforation of the bowel it would obliterate peristalsis, which is one of the most positive signs of perforation.

DR. EDWIN RICKETTS said there was one point in the paper that particularly attracted his attention—namely, that during increasing shock an operation should be performed in contusions of the abdomen. While he was aware that a large number

¹ See p. 638.

of physicians held that surgical interference should not be resorted to until shock was overcome, he thought a more dangerous teaching could not be perpetuated. The best thing for cutting shock short was an operation.

DR. I. S. STONE spoke about vomiting in rupture of the stomach. He once had a case of rupture of an old cicatrix in the stomach in a man undergoing an attack of grippe. He had vomited for several hours, and previously had a history of ulcer of the stomach. During the vomiting he was seized with pain and had afterward symptoms of diarrhea. As soon as the attack of pain occurred all of the symptoms of nausea and vomiting ceased. The sudden cessation of vomiting attracted his attention afterward, and he would like to know if any of the members had had similar cases.

DR. D. TOD GILLIAM said he was not an obstructionist. He believed in abdominal surgery, but he thought surgeons were in danger of going too far in contusions of the abdomen. He had seen a number of cases of abdominal wounds and contusions. He recalled several cases in which the indications were such as to call for immediate operation, but the patients got well without operative interference. One or two such cases were cited.

DR. HUGH THOMAS NELSON, of Charlottesville, Va., was satisfied that in a case of gunshot wound or of severe injury to the abdomen, where the symptoms are indicative of injury to the viscera, the abdomen should be opened and search made for the injury. Under such circumstances he thought it was absolutely criminal to delay operation. From his experience with injuries of the abdomen, and particularly gunshot wounds, he should say that the surgeon should not hesitate to incise the abdomen, carefully examine the contents, and repair any lesions that might be found.

DR. W. E. B. DAVIS said he had taken the position for some time that in severe injuries of the abdomen, with or without symptoms, it was safer for the patient to have an exploratory incision made. The surgeon should not wait for symptoms in this class of cases. Delay is dangerous. In the most severe abdominal injuries from gunshot wounds the patients are moribund in a number of instances, and if the surgeon does not operate within twenty-four hours a large per cent of them will be lost. In the opinion of Dr. Davis only a small per cent of the cases could be saved after this time. In every case of gunshot wound where the abdominal wall has been penetrated the abdomen should be opened.

Rigidity of the abdominal muscles, referred to by the essayist, was one of the most valuable signs he had. Indeed, this symptom was almost infallible. Whenever there is injury to the intra-abdominal viscera the surgeon will find rigidity of the muscles over that area.

DRS. JOSEPH HOFFMAN and JAMES McFADDEN GASTON also cited cases of abdominal contusion, after which the discussion was closed by DR. MACDONALD.

The following officers were elected :

President—Dr. James F. W. Ross, Toronto, Can.

First Vice-President—Dr. George Ben Johnston, Richmond, Va.

Second Vice-President—Dr. John C. Sexton, Rushville, Ind.

Secretary—Dr. William Warren Potter, Buffalo, N. Y.

Treasurer—Dr. X. O. Werder, Pittsburg, Pa.

Place of meeting—Niagara Falls, N. Y. *Time*—August 17th, 18th, 19th, and 20th, 1897.

REVIEWS.

THE MEDICAL AND SURGICAL USES OF ELECTRICITY. By A. D. ROCKWELL, A.M., M.D., formerly Professor of Electro-Therapeutics in the New York Post-Graduate Medical School and Hospital ; Fellow of the New York Academy of Medicine, etc. With 200 illustrations. Pp. 612. New York : William Wood & Company, 1896.

This book, practically the ninth edition of Beard and Rockwell's classical work, is so well and favorably known that any extended notice is unnecessary. The present edition has been thoroughly revised and rewritten, all descriptive cases have been cut out, new matter has been added, including a section on "The Röntgen Ray," and the work has been brought in every way fully up to date. With all these changes the work retains the essentials which have given it its long-continued vitality.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In twenty volumes. Vol. VIII. "Diseases of the Digestive Organs." Illustrated. Pp. 667. New York : William Wood & Company, 1896.

This volume, illustrated by over one hundred original drawings, includes sections on "Diseases of the Mouth," by Johan Mikulicz and Werner Kümmel, of Breslau ; on "Diseases of the Esophagus," by Reginald Fitz, of Boston ; on "Diseases of the Stomach," by Max Einhorn, of New York ; on "Diseases of the Pancreas," by Leo, of Bonn ; on "Diseases of the Peritoneum," by Farquhar Curtis ; on "Animal Parasites," by Huber, of Meiningen ; and on the "Treatment of Diseases caused by these Parasites," by French, of Cincinnati.

While the volume, as a whole, is fully up to the high standard set by its editor, there are two sections occupying the major part of the work which deserve special mention for their excellence. One, by Einhorn, gives a very clear and practical exposition of the most modern methods in the diagnosis and treatment of stomach diseases, and the other, by Curtis, is a

judicious and original article, not too strongly surgical, on "Diseases of the Peritoneum."

A TEXT BOOK OF DISEASES OF THE NOSE AND THROAT. By FRANKIE HUNTINGTON BOSWORTH, A.B. Cantab., A.M., M.D. With 186 engravings. Pp. 814. New York: William Wood & Company, 1896.

Four years have elapsed since the publication of the second volume of Bosworth's standard work upon diseases of the nose and throat, and it now reappears in a more attractive form. The earlier edition contained much matter valuable only for reference, and the omission of this and of many unnecessary illustrations has made possible the reduction of the original treatise to a text book of a single volume without detracting in the least from its value. A few changes and additions have been made. Among the latter we note especially an article upon the antitoxin treatment of diphtheria. This and other alterations make the work thoroughly up-to-date, while its diminished size and improved typography render it convenient for the use of the student and practitioner.

A MANUAL OF OBSTETRICS. By W. A. DORLAND, A.M., M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania, etc. With 160 illustrations in text and 6 full-page plates. Philadelphia: W. B. Saunders, 1896.

There is certainly no lack of obstetrical manuals in the medical book market, yet the author has performed his work so well that we predict for his book a large circle of readers. For the student and young physician who wish to recapitulate their readings or seek a book of quick reference, this manual, which is a mirror of modern obstetrics, is well adapted, and even the more experienced will find much of interest in this work. Without discussing the book in detail, we wish to say that the author presents the subject of obstetrics in a rational and systematic manner. The chapter on puerperal sepsis, however, deserves special mentioning; this would be a credit to larger obstetrical works.

DIE KÜNSTLICHE FRÜHGEBURT BEI BECKENENGE, auf Grund von sechszig Fällen aus der Kgl. Universitäts-Frauenklinik zu Tübingen. Dargestellt von DR. OTTO SAUVEY, Assistenz Arzt an der Frauenklinik zu Tübingen. Mit 7 Abbildungen und 3 Tafeln. Berlin: Verlag von August Hirschwald, 1896.

In this monograph the author defends the operation of the artificial induction of premature labor in pelvic contraction against the encroachment of relative Cesarean section and symphyseotomy. He concludes that its indications have not been lessened. The arguments are based upon the material of the Tübingen University Clinic, which consists of sixty cases. Sauvey writes that his conclusions might be attacked on the relatively small number of cases, but he argues that the defi-

ciency in number is counterbalanced by the minute observation of each and every case. In this we fully agree with him. Large figures alone neither prove nor disprove; correct recording of every point and uniformity of treatment are of the greatest importance in statistic deductions. The first few chapters are devoted to the description and criticism of the various methods used and recommended. In the Tübingen Clinic the method of Kiwisch (hot vaginal douches) and that of Krause (introduction into the uterus of elastic bougies) are in use. Under proper precautions both these methods are safe enough. In our experience, however, the method of Kiwisch is always slow and often absolutely unsuccessful. In the succeeding chapter the care of mother and child is detailed, and comparative statistics fill the remaining portion of the book.

The author has performed his task with great care and thoroughness, and his work forms a most valuable addition to obstetrical literature.

DIE VAGINALE RADICALOPERATION. Technik und Geschichte. Von PROF. DR. LEOPOLD LANDAU und DR. THEODOR LANDAU, in Berlin. Mit 55 Abbildungen. Berlin: Verlag von August Hirschwald, 1896.

This work is an excellent monograph upon the operation of hystero-salpingo-oöphorectomia vaginalis, the indications for which are, besides neoplasm of uterus or adnexa, inflammatory affections of ovaries and tubes. The authors' description of the history and technique of the operation is clear and concise, and their work is ably assisted by the artistic illustrations of Mr. Uvira. To those who do not restrict their gynecological therapy to painting of the cervix and ichthyol tampons we would recommend the thorough perusal of this book.

MANUAL OF MIDWIFERY. For the use of Students and Practitioners. By W. E. FOTHERGILL, M.A., B.Sc., C.M., Buchanan Scholar in Midwifery, University of Edinburgh; late House Physician to the Simpson Memorial and Royal Maternity Hospital, etc. With double colored plate and 69 illustrations in the text. New York: The Macmillan Company, 1896.

To those who desire a condensed yet correct recapitulation of the obstetric art of to-day we can heartily recommend the reading of this book. The author's style of writing is lucid and pleasant, and his advice is a safe and conservative guide. The print and illustrations are good.

A VEST-POCKET MEDICAL DICTIONARY. Embracing those Terms and Abbreviations which are Commonly Found in the Medical Literature of the Day, but excluding the Names of Drugs and of many Special Anatomical Terms. By ALBERT H. BUCK, M.D. New York: William Wood & Company, 1896.

This tiny volume is really made to fit into your vest pocket, and yet contains in clear type over five thousand of the words

that you might wish to know the meaning of in reading any modern medical work. Dr. Buck has shown excellent judgment and care in his selection, so that this latest addition to the dictionary family possesses a distinct value to the reader who wishes to have a dictionary to which he can turn at any time when puzzled by an unfamiliar word. Obsolete words are omitted, the aim being to give only those which are found in standard text books or papers on the newer topics of medicine. The binding, in flexible red morocco, is neat and durable.

BRIEF OF CURRENT LITERATURE.

OBSTETRICS, GYNECOLOGY, AND ABDOMINAL SURGERY,

IN CHARGE OF THE EDITOR AND DR. JULIUS ROSENBERG.

PEDIATRICS,

IN CHARGE OF DR. A. RAYMOND-SCHROEDER.

OBSTETRICS.

Anesthesia in Obstetrics.—H. B. Gardner,¹ continuing a communication upon the use of anesthesia in obstetric practice, discusses the various substances employed for this purpose.

Abdominoscopy in Obstetrics.—Abdominal palpation during pregnancy is described by T. M. Burns.²

Maternal Impressions.—L. Driesbach³ delivered a woman of a child whose lumbar region was the seat of a large ulcer. After the first month of pregnancy the mother had repeatedly dressed a large sore on the back of a saddle horse, and felt a presentiment that her child would be similarly afflicted.

Ovulation, Menstruation, and Conception.—To answer the question whether hyperemia and other uterine changes are the result of increased intraovarian pressure (corresponding to the swelling of the Graafian follicle) Strassmann⁴ made a number of experiments upon bitches which verify the correctness of Pflüger's theory—namely, that an increase of intraovarian pressure causes a hyperemia of the uterine mucous membrane. Strassmann injected sterilized blue gelatin (after previous laparotomy) into the ovaries of the animals, and he found the gelatin also in the ripe ova, apparently brought there by the migratory cells of the zona granulosa. The heightened blood pressure in the vessel of the mucous membrane, its swelling and the succeeding menstrual flow, are caused by the rupture of the follicle. The discharge of the ovum therefore precedes the menstrual flow. However, if conception takes place, then menstruation does not follow, but the hyperemic mucous membrane serves as a nidus for the impregnated ovum (Sigismund-Löwenhardt-Reichert's theory). The periodical hyperemia of the endometrium is a function of the ripening

ovum, but menstruation does not cause the rupture of the follicle; the ovary does work without the aid of the uterus, but with the cessation of ovarian function uterine work ceases.

Manual Reposition of Face Presentations into Occiput Positions.—In cases of mento-posterior positions a spontaneous termination of labor is rarely possible and a correction of the position is urgently indicated. The method of Baudelocque accomplishes this by a direct turning with the hand inserted *in utero*, while Schatz changes the curve of the trunk with the hand working through the abdominal wall. Thorn has combined these two methods: the hand *in utero* pushes the face upward, while another hand presses the occiput downward; an assistant at the same time corrects the position of the trunk through the abdomen. Jungmann* reports three cases in which this method was successful. The method is recommended in mento-posterior cases in which the os permits the entrance of two or three fingers; the head must be movable and the pelvis of normal or nearly normal dimensions. (All authors are agreed that it is malpractice to permit mento-posterior positions to persist and await spontaneous delivery. Interference is absolutely indicated. Our experience, however, leads us to recommend podalic version instead of attempting to change the face into an occiput position. The forces which were originally responsible for the face presentation generally continue to exist, and in many cases we are again confronted with a face position shortly after its manual correction. Podalic version is not more difficult than manual correction, and it permits the rapid termination of labor whenever desired.)

Artificial Dilatation of the Cervix at the End of Pregnancy and during Labor.—Demelin* reports twenty-seven cases in which prolapse of the funis, discharge of meconium, hemorrhage, eclampsia, heart disease, etc., formed indications for rapid cervical dilatation. The means used were the hand, Tarnier's dilator, and Braun's colpeurynter. One woman died of cerebral hemorrhage (had taken place before dilatation was attempted); a living child, however, was secured. All other cases recovered, and only eleven children were lost. Demelin employs rapid dilatation in placenta previa and eclampsia only if in imminent danger. Rapid dilatation of the cervix is connected with many dangers to both mother and child, and should be resorted to only if either the mother's or the child's life is in jeopardy. There exists no relative indication for this operation.

Pregnancy in a Rudimentary Uterine Horn.—Kleinwächter collected all cases of pregnancy in a rudimentary horn published between the years 1681 and 1894; these amounted to forty-two cases. This shows the rarity of its occurrence. Beckmann* reports a new case in which the diagnosis of adherent ovarian tumor was made. After opening the abdomen it was seen that the diagnosis of ovarian tumor was wrong, but that the tumor consisted of a pregnancy (about the fourth month)

in a right rudimentary horn of the uterus. The horn was amputated and the raw surface covered with peritoneum. The woman recovered and became pregnant four months later. A living child was delivered at full term after a normal labor. The diagnosis of this condition is difficult.

Twin Labor; Placenta Velamentosa; Death of both Children.—Knapp.¹ There was velamentous attachment of the cord, and the circulation of both children, which were from one ovum, was connected by a large and superficial arterial anastomosis. Simultaneously with the rupture of the membranes a large vessel was torn, resulting in the death of the twins from fatal intrapartum hemorrhage.

Albuminuria during Pregnancy, Labor, and Puerperium.—Based upon urinary examinations of 314 pregnant women, 306 cases of labor, and 87 puerperæ, the author comes to the conclusion that albuminuria during pregnancy is not the serious complication commonly supposed. Saft² found albumin present in 5.4 per cent of the pregnant women—more frequent in primiparæ (5.9 per cent) than in multiparæ (4.1 per cent). During labor the presence of albumin becomes more frequent, and it is also present in larger quantities in primiparæ as compared with multiparæ—32 to 22.6 per cent. The so-called kidney of pregnancy is produced by an autointoxication of the organism, the result of an augmented tissue change. This condition of the kidney, however, has nothing in common with nephritis. Like many other authors, Saft believes eclampsia to be due to a disturbed tissue change and the formation of toxic substances which circulate in the blood and act directly or indirectly upon the nerve centres. The changes found post mortem in the kidneys, liver, and other structures are secondary; they are results of eclampsia, but not its cause.

Eclampsia, Vagitus Uterinus.—W. Grayson³ reports a case of eclampsia. The labor was terminated by the use of Barnes' dilators and forceps. The child cried vigorously *in utero*. Purgation and veratrum viride arrested the convulsions.

Eclampsia.—A case of puerperal eclampsia was treated by N. B. Clowes⁴ by hypodermatic injections of hyoscine, one-hundredth of a grain, after delivering the child by forceps. The convulsions ceased. A death from eclampsia is reported by A. Worcester.⁵ W. M. Catto⁶ sums up the treatment of eclampsia as free bleeding until the face becomes pale and the breathing quiet, catharsis, diuresis and diaphoresis, and as rapid delivery as is compatible with safety. He presents the histories of twelve cases with two deaths.

Uremia.—Three cases of uremia during pregnancy are reported by A. Worcester.⁷ Death occurred in two instances.

Phlegmasia Dolens.—A study of this subject is presented by A. D. Wilkinson.⁸

Hemorrhagic Malarial Fever in Pregnancy.—The history of three cases of hemorrhagic malarial fever occurring in preg-

nant women is given by C. D. Simmons.* In one case labor occurred during the attack and was followed by death.

Uterine Fibroid and Pregnancy.—F. L. Burt* successfully performed abdominal hysterectomy for large uterine fibroid at the second month of pregnancy. The uterus filled the abdominal cavity and pressed upon the diaphragm.

Ovarian Tumors complicating Pregnancy.—C. S. Bacon** prefates a discussion of this subject by a report of the successful removal of a rapidly increasing ovarian cyst without disturbing gestation. He considers the influence of pregnancy upon the growth of ovarian tumors, and their treatment. Ovariectomy seems most satisfactory, and comparison of the two routes results in favor of the vaginal. The time for operation is also considered.

Pregnancy complicated by Ovarian Tumor.—A. C. Butler-Smythe** records a case of pregnancy complicated by an ovarian cyst. The labor was not interfered with by the tumor, which increased in size after this time and burst on the nineteenth day after delivery, without unfavorable results.

Placenta Previa.—A case of placenta previa in which the child was saved at the seventh month by induced labor is reported by A. Dixon.**

Post-partum Hemorrhage.—A case of post-partum hemorrhage brought on by a sudden shock and consequent uterine relaxation is described by R. L. Wood.**

Obstetric Accidents.—A. Worcester** reports a case of severe *cervical hemorrhage* from a laceration occurring during an instrumental delivery. He also records a case of death from *pulmonary embolism* after a normal labor. In another case he reduced by forcible manipulations an angular *depression of the frontal bone* of the child produced by forceps.

Incomplete Abortion.—A. M. Stuart** indorses the method of treating incomplete abortion by the dull curette, irrigation with hot creolin solution, and tamponade of the uterus, with a second douche after the expulsion of the membranes.

Habitual Abortion.—C. D. Spinak** gives the history of a woman who aborted ten times consecutively, prolonged rest in bed proving unavailing, as had syphilitic and medicinal treatment and curettement. During her eleventh pregnancy active exercise was prescribed and the child carried to term.

Pregnancy following Ventral Fixation.—J. M. Krim** records a pregnancy following ventral fixation in which pain began at the fifth month and was so severe at the sixth as to require the administration of morphine. The pregnancy ended by abortion.

Dystocia from a Pinhole Hymen.—The patient of G. G. Van Schaick** was found, after a labor of three-quarters of an hour, with the fetal head born but covered by a tough hymen with an aperture the size of a crow quill. The delivery was completed immediately after incision of the hymen.

Induction of Premature Labor by Glycerin.—T. A. Helme** has obtained, by intracervical injections of glycerin,

very rapid dilatation and softening of the cervix before the onset of labor pains, and separation of the membranes from the lower segment of the uterus. The latter permits him to follow the intracervical injection of glycerin by an intrauterine, without the use of force, and hence with no danger of rupturing the membranes. Two cases so treated are described.

Ectopic Gestation.—In a discussion of ectopic gestation C. B. Penrose⁹ expresses his opinion that the treatment of all its varieties should be operative, and that the sooner the operation is performed the better for the patient. Consideration for the life of the child should have no influence in determining the time of operation.

Celiotomy was performed by G. G. Van Schaick⁹ for two extrauterine pregnancies. Rapid recovery followed in one case. The result of the other is not stated.

J. A. Patterson¹⁰ writes of a case of mixed labor in which the sac containing the decomposed bones of a full-term child were found after the death of the patient seven years later.

Extrauterine Pregnancy.—A case is reported by F. F. Schacht.¹ The unruptured tube was found to contain a fetus of six weeks; recovery of the mother after its removal. In a case operated upon by D. Hardie¹ at the eighth month the child lived six hours; menstruation occurred a month later, and the placenta was removed during the sixth and seventh weeks through a sinus left at the time of operation for drainage purposes.

The material of the Second Gynecological Clinic of Budapest, observed during a period of fourteen years, forms the basis of a paper by Toth.¹¹ There are 36 cases, with a minute description of status, treatment, and, if lethal, post-mortem examination. The cases are divided into those of the first and second half of pregnancy. Rupture of the tubal sac occurred in 70.3 per cent, mostly within the first three months of pregnancy. The bad results of the expectant plan of treatment (Schauta says the mortality is 68.8 per cent, in operated cases 23.4) led Toth to recommend operative interference as early as possible and in all cases. The author, like Werth, compares extrauterine pregnancy to a malignant growth. Of 27 cases operations were performed 24 times; 5 cases died, which is a mortality of 18.5 per cent.

Curettement in Extrauterine Pregnancy.—Hofmeier and Löhlein have drawn attention to the dangers of curetting in extrauterine pregnancy; both observed the formation of hematocoele after this procedure, which in some cases proved fatal. Hammerschlag¹² relates another case in which the curettement was done for diagnostic purpose. This was soon followed by an abscess of the parametrium, which fortunately, however, found an outlet through the rectum.

Gonorrhea during the Puerperium.—J. Neumann¹³ demonstrated the presence of gonococci in particles of the decidua obtained by curettement from the puerperal uterus. The ques-

tion whether the gonococci can enter the uterus during an existing pregnancy could not be answered.

Puerperal Sepsis.—Pestalozza " says the infection in more than fifty per cent of cases is in the cervix uteri and should be treated by energetic cauterization. Vaginal and uterine irrigations are not without danger and are not to be relied upon. The nature of the infection being determined (streptococcus or diphtheria bacillus), a corresponding serum should be employed. The rapid elimination of the poison by the skin, intestinal tract, and kidneys is the third indication for treatment, to all of which is added proper stimulation and nourishment.

From a study of recent literature B. C. Hirst " draws these conclusions concerning puerperal sepsis: The vagina becomes infected almost immediately after birth. In a normal condition it contains no pathogenic bacteria. It has strong germicidal powers which serve to guard a woman against infection. These powers depend, as far as our personal knowledge goes, upon the presence of a special bacillus and upon the products of its life processes; upon the leucocytosis due to chemotactic action; upon phagocytosis; upon the germicidal powers, perhaps, of the anatomical elements of the vagina, of the cervical mucus, and of the bloody discharge during menstruation and the puerperium. The discharge of the liquor amnii, washing out the vagina; the passage of the child's body, scrubbing the vagina out; the descent of the placenta and membranes, and the bloody discharge which follows, are more effective safeguards against infection during and after labor. Simple vaginal douching for disinfecting the vagina before labor or an operation is ineffective, as mere introduction of an antiseptic fluid will not destroy the pathogenic germs while removing some of the natural barriers against infection. Hirst therefore usually confines his antiseptics to his own hands and those of his assistants and the instruments employed. If objective antiseptics is demanded, thorough scrubbing of the vagina, combined with douching, is necessary. While mentioning other modes of infection, he emphasizes that by the examining finger.

Care of the Breasts in Lactation.—A practical paper upon this subject is published by C. Rosewater."

A Report of One Hundred and Five Labor Cases with Pelvic Contraction observed during the Years 1891-1895 in the General Division of the Prague Maternity Hospital.—Knapp." This paper is a most important contribution to obstetrical literature, and, as the original is not accessible to the majority of readers, a detailed abstract is in order. Among 4,289 labor cases pelvic contraction was present in 105 cases—2.4 per cent. In 34 cases (15 primiparæ, 19 pluriparæ) the pelvis was of the SIMPLE FLAT TYPE, with a conjugata vera varying between 8 and 10 centimetres. The fetal presentations were: occiput anterior, 18; occiput posterior, 10; brow, 1; breech, 1; transverse, 4. Sixteen cases (47 per cent) ended by spontaneous delivery (9 primiparæ, 7 pluriparæ), while

in 18 (6 primiparæ, 12 pluriparæ) the pregnancy or labor was terminated by artificial means. Of these, 11 (60.6 per cent) were stillborn. The instrumental aids consisted of the following operations: artificial induction of premature labor, 1; forceps, 3; version, 4; perforation, 9; decapitation, 1—for which the indications were: *Artificial premature labor*: three successive craniotomies having followed upon three normal deliveries. *Forceps*: asphyxia of child, 1; fever of mother, 2—3. *Version*: transverse presentation, 2; prolapse of cord, 2—4. *Perforation*: fever of mother, 4; uterine atony, 1; threatening rupture of uterus, 3; prolapse of arm and cord, 1—9. *Decapitation*: neglected transverse presentation. The puerperium was afebrile in 29 cases (85.29 per cent); fever was present in 5 cases (14.71 per cent). Of these 3 women entered the clinic with a rise of temperature, 1 of them dying twelve hours post partum of sepsis.

UNIFORMLY CONTRACTED PELVIS.—24 cases (15 primiparæ, 9 pluriparæ); conjugata vera between 8 and 10 centimetres. *Fetal positions*: occiput anterior, 18; occiput posterior, 4; transverse presentation, 1, foot presentation, 1 (twins). *Spontaneous termination*: 12 (8 primiparæ, 4 pluriparæ); instrumental aid necessary in 12 (7 primiparæ, 5 pluriparæ). Of the spontaneous deliveries 95.8 per cent of children were born alive. The instrumental deliveries consisted of the following operations: forceps, 6; version and extraction, 2; perforation, 3; symphyseotomy, 1. Instrumental aid resulted in 8 living children (61.5 per cent); 5 (38.5 per cent) were stillborn. The indications for operative interference were: (a) *Forceps*: threatening asphyxia of child, 3; fever of mother, 1; absence of pains, 2; threatening uterine rupture, 1—7. (b) *Extraction and version*: foot and transverse presentation. (c) *Perforation*: fever of mother after failure to deliver with forceps, 1; pneumonia and dead child, 1; version and failure to deliver after-coming head, 1. (d) *Symphyseotomy*: disproportion between pelvis and fetal head. Twenty-one cases were free from fever during puerperium; in 3 cases a rise of temperature was observed.

RACHITIC FLAT PELVIS.—23 cases (7 primiparæ and 16 pluriparæ). Conjugata vera measured between 5 and 10 centimetres. *Fetal positions*: occiput anterior, 16; occiput posterior, 6; transverse, 1. *Spontaneous termination*, 4 cases (all children born alive). *Instruments required* in 19 cases, consisting of the following operations: induction of premature labor, 1; forceps, 8; version, 4; extraction, and perforation, 1; perforation of living child, 1; perforation of dead child, 2; conservative Cesarean section, 2. Twelve living children (63.16 per cent) and 7 stillborn (36.84 per cent) were the result of instrumental delivery. Indications for operation: (a) *Premature Labor*: perforation and Cesarean section in previous confinements. (b) *Forceps*: threatening asphyxia of child, 6; threatening rupture of uterus, 1; occiput posterior, 1. (c) *Version*: transverse presentation, 1; and prolapse of cord, 3.

(d) *Perforation*: threatening rupture of uterus after unsuccessful attempt at version, 1; tetanic contraction of uterus and prolapse of cord, 1; impossibility to deliver after inducing premature labor, 1. (e) *Cesarean section*: absolute indication due to pelvic contraction.

UNIFORMLY CONTRACTED RACHITIC PELVIS.—8 cases (4 primiparæ and 4 pluriparæ); conjugata vera between 7.5 and 9.5 centimetres. *Presentations*: occiput anterior, 4; occiput posterior, 1; foot, 1; transverse, 2. Spontaneous termination, 5; artificial termination, 3, with 4 and 2 living children, respectively. *Operations performed*: version and extraction, 1; Cesarean section, 2. *Indications* were: version and extraction, transverse presentation, Cesarean section, relative indications. Six puerperæ free from fever; fever present in two cases (one of them died fourteen days after Cesarean section).

OSTEOMALACIC PELVIS.—8 cases; operative interference became necessary in every case. The operations were: perforation of living child, 2; perforation of dead child, 1; perforation of retained head, 1; Cesarean section after Porro, 1; conservative Cesarean section with castration, 3. Five febrile, 5 afebrile puerperæ. Mortality, 3 cases (37.5 per cent). Infection caused two deaths, the women entering the clinic in a feverish condition (previous attempts to deliver); the third woman perished from internal hemorrhage caused by the bursting of the uterine sutures.

IRREGULARLY CONTRACTED PELVES CAUSED BY DEFORMITIES OF THE VERTEBRAL COLUMN, ETC.—8 cases (3 primiparæ and 5 pluriparæ), with 50 per cent each of spontaneous and instrumental deliveries. The operations performed were: perforation, 1; embryotomy, 1; Cesarean section, 2. The indications were the impossibility to deliver by other means or methods. All the mothers recovered; of the children 3 were stillborn.

Knapp's paper illustrates two important points—namely, a contracted pelvis in itself does not preclude spontaneous delivery, and expectant treatment gives the mother the best chances of survival. In the treatment and operative methods employed, to save the mother's life was the main endeavor. This accounts for the most favorable result, that 105 cases of contracted pelvis were delivered with a maternal mortality of 0.95 per cent only. The paper is full of important details which it is impossible to condense into the space of an abstract; the reading of the original, therefore, is warmly recommended.

Treatment of *Asphyxia Neonatorum*.—It is important to know whether the medulla reacts or not. The much-recommended tongue tractions of Laborde are only of value if the medulla reacts. Schultze," however, considers them always inferior to cold-water applications. If the medullary reflexes are extinguished and the child is pale, Schultze's method of artificial respiration is the only serviceable method. These must be interrupted every minute to place the child in a warm bath.

Intrauterine Infection of a Viable Child with the Typhoid Bacillus and Staphylococcus Pyogenes Albus.—Dürk." A woman 20 years old and at the end of pregnancy became ill with typhoid fever. About the third week of the disease she was delivered of a well-developed living child, which died six hours later. Autopsy of child seven hours post mortem: weight, 3,120 grammes; abdomen tympanitic, its walls slightly icteric; abdominal cavity contains small quantity of turbid serous fluid; peritoneum glistening; liver and spleen enlarged and markedly congested; intestinal mucous membrane smooth, slightly injected; intestinal and mesenteric glands not enlarged. Under strict precautions cultures of liver and spleen upon agar demonstrated the presence of typhoid bacilli and staphylococci in both organs.

GYNECOLOGY AND ABDOMINAL SURGERY.

A Rare Case of Foreign Body in the Vagina.—Krause." The vagina of a young girl harbored a hairpin for two years, which was the cause of a purulent vaginitis. The removal of the pin resulted in the quick subsidence of the vaginitis.

The Etiology of Atresia of the Genital Tract.—Meyer." Veit and Nagel believe that atresia of the single vagina and a consequent hematosalpinx are never of congenital origin, but are acquired in later life. Meyer's paper shows the correctness of this theory.

Constriction of the Vagina for Prolapse of the Uterus.—Flatau." The method recommended by Freund for treating uterine prolapse in women past the menopause, by placing concentric wire sutures in the vaginal septum, was found practically bad, on account of the subsequent infection of the openings by which the sutures had been introduced; this and excessive constriction (especially the former) resulted soon in suppuration of the ligatures. Flatau will avoid this through a lesser degree of constriction and by dissecting off flaps of mucous membrane at the point of entrance and exit of the sutures; these flaps are closed and infection is thus prevented.

Ventrofixation for Prolapsus Uteri, followed by Twin Pregnancy and Successful Delivery.—Lindfors." Woman æt. 30, sterile, married life of two years. Through hard work acquired prolapsus uteri in her fifteenth year and before onset of menstruation; unsuccessful colporrhaphy had been performed. Cervix is outside the vulva, hypertrophic and indurated; external os hardly recognizable. Ventrofixation April 21st, 1895, after a modification of Leopold's method; point of fixation, anterior uterine wall one and a half centimetres below the fundus; three fixation sutures of silkworm gut; laparotomy followed by Lawson Tait's perineorrhaphy; convalescence good; removal of fixation sutures on the fourteenth day; discharged from hospital twenty-one days post operationem. Patient became pregnant in the beginning of August; no unusual discomfort, except that the act of urination is very slow and tedious. Patient was examined in February, 1896, when

it was found that the prolapse had not recurred, the os was still very small. Labor April 5th, Upsala University Clinic; twin pregnancy. First child: vertex presents, occiput rotated; os resisting, undilatable; deep incisions; forceps. Second child: vertex presentation; forceps. Gauze tampons for cervical hemorrhage; afebrile puerperium. Discharge after two weeks—uterus in good position, fundus attached to abdominal wall by a long adhesion.

Prolapse of the Uterus.—C. E. Pontius "emphasizes the importance of improper clothing in the production of prolapse of the uterus and means applicable for its relief.

Retrodeviations of the Uterus.—A clinical lecture upon this subject was delivered by B. B. Browne. "Wertheim's new method of shortening the round ligaments through the vagina is described by A. J. Hosmer." A transverse incision is made in the anterior utero-vaginal junction and the uterus separated from the bladder. After opening the peritoneal cavity the incision is enlarged and the anterior peritoneal flap is fastened by temporary sutures to the cut edge of the vagina. After loosening any adhesions found the round ligaments are drawn down by forceps, doubling on themselves, and the approximated surfaces of each sewed together while in this position. A shortening of six to nine centimetres is thus obtained. The temporary sutures are removed and the peritoneal surfaces reunited. The transverse incision at the utero-vaginal junction is sewed vertically, lengthening the anterior vaginal wall and throwing the cervix backward. Its advantages over the Alexander-Adams operation are: it leaves no visible scar; is easier to perform, the ligaments being larger at this point and easy to find; the transverse cut in the vagina, sewed vertically, assists in anteverting the uterus; it allows perfect access to the pelvic viscera, thus permitting of minor repairing at the same sitting when indicated; the operation is less dangerous. Over any method of antefixation it possesses the advantage that it permits the free growth of the gravid uterus.

Alexander's Operation.—A one-inch incision is made by A. L. Smith "over the external inguinal ring, dividing the tissues only as far as the intercolumnar fascia and leaving the latter uninjured. Covering the ring with the index finger, a pair of closed Péan's forceps are slipped under it into the inguinal canal and the contents drawn out. The round ligament is separated from the ilio-inguinal nerve and fascia by the fingers alone, and drawn out, stripping back the peritoneal covering also by hand. A fine silk suture is passed through the anterior wall of the inguinal canal and half the round ligament, and a second through Poupart's ligament, half the round ligament, and the superior pillar of the ring. This operation avoids division of the intercolumnar fascia, the natural support of the external ring, making hernia impossible. The round ligament can always be found in this manner.

Vaginal Fixation of the Uterus.—The advantages and disadvantages of vaginal fixation are reviewed by J. J. Macan.¹

Retrofixation of the Cervix.—Pagenstecher¹¹ criticises the various operative methods for the treatment of retroflexion of the uterus, and condemns the operations which fix the body, because they decrease the mobility of the organ and prevent its ascent into the abdominal cavity during pregnancy. The methods devised by Säger, Freund, and Stratz fix the cervix and do not lessen the mobility of the uterus. Pagenstecher proposes to open Douglas' cul-de-sac and to close the wound with a row of sutures which include the rectum. This recto-vagino-fixation fastens the cervix posteriorly and produces an antelexion of the uterus. So far the method has been successfully demonstrated in only one case.

Atrophy and Hyperinvolution of the Uterus.—Bossi.¹² A depressed mental condition must be considered as an important etiological factor; this can also be the cause of amenorrhea and uterine atrophy outside of the puerperium. Severe pains resembling labor pains, continuing for several days after birth, are the main symptom, and the pathological changes consist in a decrease of muscular fibres and a corresponding increase of connective tissue.

Value and Technique of the Diagnostic Curettement.—Genner's¹³ paper endeavors to prove that a curettement of the endometrium and its microscopical examination is a better method of diagnosis than dilatation of the cervix and subsequent palpation of the uterine cavity. He bases his conclusions upon five years' experience in the Berlin Clinic, and many histories are reported showing that in a large number of cases the diagnosis was and could only be made by means of the curettement and microscopical examination. Genner prefers the curette to the sharp spoon; he irrigates the uterus with sterilized water. The curetted material is put in absolute alcohol for twenty-four hours, when it is ready for section cutting. The sections are placed in carmin-alum for twenty-four hours; glycerin is used for clearing up the specimens, which are mounted in Canada balsam.

Treatment of Uterine Fibroids with Thyroid Extract.—Jouin.¹⁴ Based upon an experience with twenty-five cases, the results show that the administration of thyroid extract not only decreases the size of the tumor, but also exerts a favorable influence upon the existing metrorrhagia.

The Best Operation for Uterine Fibroids.—Blum¹⁵ decides this question in favor of Zweifel's operation, which consists in an absolute avoidance and arrest of bleeding by ligating the broad ligaments before their dividing, and a careful covering of the stump with peritoneum. Zweifel's record in the years 1888 to March, 1896, is 120 cases with 3 deaths, or a mortality of 2.5 per cent. Blum reports 70 new cases from Zweifel's clinic.

Two Cases of Submucous Myomata with Secondary Adherence to the opposite Uterine Wall.—Chrzanowsky¹⁶ adds two new cases to the two recently reported by Küstner.

In the second case the adhesions between the new growth and the opposite uterine wall were so marked that the cornu uteri above the internal os was totally obliterated; in spite of this profuse menstruation was present. These adhesions are said to be the result of pressure necrosis; traumatism from instruments could be excluded.

Uterine Fibroids.—Two successful hysterectomies for uterine fibroids are recorded by R. O'Callaghan.¹

Rectal obstruction caused by a large uterine fibroid, in a patient 52 years old, is reported by G. G. Van Schaick.¹⁰ No passage had occurred in six days, and during the three weeks previous only small liquid stools by the aid of enemata. Recovery followed celiotomy for removal of the tumor.

Hysterectomy by Ségond's method has been successfully performed by W. C. Wood¹¹ for multiple fibroids. The tubes and ovaries were removed for hydrosalpinx.

Employment of Gauze in the Uterine Cavity.—J. H. Rishmiller¹² believes that the uterus should not be tamponed in aseptic cases unaccompanied by functional disturbances. Firm uterine gauze tamponade does not promote drainage, but favors retention. In trachelorrhaphy and amputation of the cervix the use of gauze in the uterus hinders coaptation and its extraction disturbs primary union. In septic cases loose gauze drainage is advisable, and in functional disturbances of the uterus depending upon flexion, mural neoplasms, and impeded circulation, thorough tamponade is invaluable.

Endometritis.—A clinical lecture upon hemorrhagic endometritis and metritis is presented by E. E. Montgomery.¹³

Cancer of the Uterus.—J. M. Lawrie¹ performed vaginal hysterectomy in two cases of cancer of the uterus. Recovery.

Uterus Bicornis Septus.—A case of this malformation of the uterus was observed by F. Edge.¹

Abdominal versus Vaginal Hysterectomy.—A. M. Cartledge¹⁴ argues against the employment of vaginal hysterectomy, except for cancer which has not invaded the broad ligaments and many cases of small movable fibroids and of puerperal metritis with multiple uterine abscesses.

The Vaginal Route.—The vaginal route is favored by A. L. Smith¹⁵ for many cases, but the abdominal is preferred by him for bad pus cases and large fibroids. A successful vaginal salpingo-oöphorectomy is reported.

Hysterectomy.—The following successful hysterectomies are described by G. E. Shoemaker¹⁶ to illustrate the indications for each: vaginal hysterectomy for epithelioma of the cervix; supravaginal amputation for double pyosalpinx and metritis; and pan-hysterectomy by the combined routes for small, painful, bleeding fibroids.

Celiotomy.—A patient of J. E. Moore¹⁷ had undergone a criminal abortion and presented five openings around the umbilicus discharging fecal matter. Celiotomy showed the intestines very adherent and the abdominal cavity full of fecal matter, but failed to demonstrate the intestinal opening. Iodo-

form gauze was introduced into the abdominal wound and the abdomen flushed several times daily with warm water. Recovery gradually followed, and the wound closed.

Pelvic Inflammation.—L. Frank¹¹ discusses the various operative procedures for pelvic inflammation. In treating of operative procedures for pelvic inflammation, L. Frank¹¹ notes and compares the advantages of the abdominal and vaginal routes. E. E. Montgomery¹² advocates the treatment of pelvic inflammation through the vaginal incision, and outlines the operative procedures employed for this purpose.

Pelvic Abscess.—C. P. Noble¹³ calls attention to the value of drainage in the treatment of large pelvic abscesses. A report is given of eight cases so treated without a death.

Ovary.—In an article upon the diagnosis of small ovarian tumors, F. H. Davenport¹⁴ reports the removal of such growths in ten cases, followed by recovery.

A successful double ovariectomy for ovarian cysts is described by J. Poynder.¹⁵

Salpingo-oophoritis.—E. Reymond and W. S. Magill¹⁶ conclude a study of the pathological anatomy and bacteriology of salpingo-oöphoritis, showing that the gonorrheal affection generally extends on the surface along the mucous membrane and on the peritoneum, while the streptococcal infection from the beginning attacks the tissues in mass, and the mucous and serous membranes may also be affected, but secondarily. Inflammation of the tube and ovary due to other forms of bacteria is considered.

Abdominal Hysterectomy for Inflammatory Conditions of the Adnexa.—Bliesener.¹⁷ The indications for this operation (performed by Bardenheuer forty times during the last nine months) are painful symptoms originating from inflamed adnexa which have not yielded to long persistent palliative treatment, and every accumulation of pus in the tubes. The removal of the generally diseased uterus is advisable, because the extirpation of the adnexa alone is frequently insufficient to effect a cure. The sensitive uterus may assume abnormal positions, fluor albus and metrorrhagia often persists, and an inflammatory condition of remaining stumps interferes with complete convalescence. The last-mentioned symptoms were in a number of cases the indications for the removal of the uterus after a preceding oöphorectomy. The author prefers the abdominal to the vaginal route. The technique of the operation is described; the most important point made is the necessity of an accurate covering with peritoneum of the pelvic raw surface; this is the best prophylaxis against infection and intestinal adhesions.

The Treatment of Pelvic Suppuration.—I. From a surgical point of view BOUILLY¹⁸ classifies pelvic abscesses as: (a) abscesses of the connective tissue—parametritis, periuterine phlegmon; (b) abscesses of tubes and ovaries—pyosalpinx and suppurative oöphoritis; (c) primary abscesses of the peritoneum—pelveo-peritonitis, suppurative hematocele; (d) exten-

sive suppurations, in which the different organs participate simultaneously in the production of pus, where fistulæ are present which may empty themselves either through the skin or into the various hollow organs.

II. Puncture can be considered only as a diagnostic method. The three main therapeutic methods are: 1. Simple incision with drainage, abdominal or per vaginam. 2. Incision into and removal of the suppurative focus by laparotomy. 3. Incision into and removal of the suppurative focus per vaginam, after preceding vaginal hysterectomy, with or without morcellation of uterus. 4. As derived from these three main methods, may be considered: (a) the removal of one-sided foci per vaginam, with preservation of the uterus and the adnexa of the opposite side; (b) abdominal hysterectomy with removal of ovaries and tubes.

III. The simple incision with drainage is indicated: (a) in acute pelvic abscess originating in the pelvic connective tissue; (b) in uncomplicated pelvic suppurations of puerperal origin, the result of gonorrhea or abortion, acute or subacute, also those from operative infection; (c) suppurative hematocele; (d) some cases of encapsulated pelvic abscesses which have their seat in the adnexa. A simple incision may safely be employed if the suppurative focus is one-sided, with thin walls, if fluctuation is present, if to one side of the uterus and deeply situated, or where pressure upon the abdomen will bring it into contact with the vaginal walls. Simple incision is indicated, in acute suppuration of the ovaries or tubes, when the patient's general condition is bad or when the virulent condition of the pus contraindicates laparotomy or hysterectomy. A failure to cure by vaginal incision results in a suppurating fistula. This, however, does not prevent a subsequent vaginal hysterectomy.

IV. Laparotomy is indicated when the disease is localized on one side, and in a young woman when the extension of the disease to both sides is not certain. Laparotomy is preferable when doubt exists as to the presence of an ovarian or dermoid cyst or an extrauterine pregnancy. In cases of bilateral disease the operative method depends upon the location of the pus. Suppurative masses near the fundus uteri, which are more abdominal than pelvic, not surrounded by indurated tissues, demand laparotomy. With these restrictions vaginal hysterectomy may be employed. In the treatment of large, adherent, suppurative masses it is the method of selection. For old chronic abscesses of the pelvic connective tissue which have been permitted to open spontaneously and often are connected with the adjacent organs it is excellent. In these cases perfect drainage must be secured; the removal of the uterus accomplishes this in an ideal way.

H. A. KELLY.—Before performing laparotomy *puncture per vaginam* should be tried in: 1. Firm exudative masses situated laterally or posteriorly to the uterus, connected with the fornix vaginæ or separated by adhesions from the peritoneum.

2. Cases of chronic inflammation in which exist fistulæ of rectum, bladder, or abdominal wall. 3. Large hydrosalpinx, or where the tubes can be reached with certainty from the vagina. 4. Encapsulated pelveo-peritonitis.

Reasons why this method is preferable in the aforementioned cases.—1. No nervous symptoms as after hystero-salpingo-oöphorectomy. 2. Menstrual and productive functions remain intact. 3. Rapid reconvalescence—eight to ten days in bed. 4. No danger of injury to intestines. 5. Mortality below two per cent.

Dangers of operation.—1. Hemorrhage. 2. Perforation into rectum and intestines. 3. Peritonitis caused by an escape of pus into the abdominal cavity.

Conditions in which a complete cure cannot be predicted with certainty.—1. When the abscess cavity is surrounded by dense indurated tissue (cellulitis) extending above the small pelvis and pressing upon nerves, vessels, and ureters. 2. In pronounced stricture of the rectum, a result of the adjacent inflammatory productions. The abscess may heal, yet the stricture may remain and cause subsequent discomfort.

Conditions which demand exploratory incision.—1. When it is desired to exactly localize the disease and decide whether a radical operation will assure complete recovery. 2. To avoid injury to the intestines situated between the abscess wall and the fornix vaginæ. 3. To completely evacuate the pus from old abscesses, localized pockets, or double pyosalpinx.

Conditions in which vaginal puncture is of the greatest value.—Young married or unmarried women who suffer from grave disorders of the genitals; the latter must never be removed unless all other therapeutic means have been vainly tried.

SÄNGER.—I. For each individual case the operation best adapted should be selected.

II. The general rules followed by the large majority of German gynecologists are: 1. To operate only upon strict indication. 2. Greatest possible conservatism. 3. Selection of operation after exact bacteriological, clinical, and anatomical diagnosis.

III. Conservative and abdominal operations are preferred to vaginal hysterectomy and hystero-salpingo-oöphorectomy.

IV. *Methods of treatment.*—1. *Vaginopuncture*: In chronic cases, if pus is encapsulated or localized in a single organ; success only with sterile pus. Only permissible if purulent deposit can be reached without entering the free abdominal cavity. 2. *Incision*: In extraperitoneal deposits of pus. In intraperitoneal deposits in the form of colpo-celiotomia simplex.

V. *Abdominal celiotomy* for large accumulations of pus in the abdominal cavity and the incision or removal of organs which have undergone purulent changes. Encapsulated masses should be only opened and drained; organs containing purulent masses must be removed *in toto*. Wherever possible the

uterus and ovaries are to be preserved to avoid the serious train of symptoms following the removal of the genitals.

HENROTIN: Pelvic suppuration is curable in ninety per cent without the extirpation of any organ. Vaginal incision is to be made as early as possible—always as soon as pus is present. Incision is followed by drainage of the abscess cavity and curettement of the uterus. Chronic cases are curable by similar methods. Circumscribed unilateral salpingitis or pyosalpinx should be removed by laparotomy. In bilateral salpingitis with extensive adhesions the vaginal route is recommended; vaginal hystero-salpingo-oöphorectomy only in extensive and multiple pelvic suppuration.

RICHELOT advises *vaginal incision* in pus collections with thin walls, a result of puerperal infection. Young women with apparent unilateral affection are best treated by *laparotomy*. Virulent pus and extensive adhesions with the intestines are grave complications. *Vaginal hystero-salpingo-oöphorectomy* gives a relatively favorable prognosis. RicheLOT has four and a half per cent mortality.

HARTMANN recommends the trial of conservative methods in every case. Had much success with medical treatment, also from dilatation of cervix and curettement. Laparotomy is preferred when operative interference becomes necessary.

PÉAN: In judging the value of the different operative methods a lasting cure, not immediate results, is the desideratum. Vaginal hysterectomy is not dangerous—3 per cent mortality in 350 cases. If only the adnexa are removed pelvic suppuration is apt to continue (31 cases), necessitating subsequent removal of the uterus.

DELAGÉNIÈRE urges individualizing in the selection of the operation. Sometimes a simple operation necessitates later a grave one. He prefers abdominal hysterectomy to vaginal hystero-salpingo-oöphorectomy. The latter operation Delagénère has performed ten times with two deaths.

LAROYENNE warmly recommends the incision of the abscess cavity per vaginam. He obtained good results by this method not only in simple but also in multiple pus sacs. The higher situated abscess cavities are to be opened through the one below. Pyosalpinges having their seat in the pelvis may be depressed into the vagina and can be opened by vaginal incision.

LEOPOLD agrees with the views of Sänger. He removes small unilateral and sometimes bilateral diseased adnexa by laparotomy; mortality, one to two per cent. Vaginal hysterectomy should be restricted to cases in which through long-continued inflammation of the uterus and adnexa firm adhesions have formed. Leopold performed vaginal hysterectomy in grave cases of pelvic suppuration 57 times with only 1 death. The ligature method is always used, and no injury to the surrounding organs has ever occurred.

HONOTAY says that gonorrhea is the main cause of all purulent diseases of the adnexa. Most cases of so-called "puerperal inflammations" are only gonorrheal inflammations of these

organs. Every pregnant woman suffering from gonorrhea should have her attention called to this fact, and every man afflicted with the disease should be made aware of the consequences of gonorrheal infection in woman. Medical treatment should have a trial in every case of inflammatory disease of the adnexa. The radical operation per vaginam is preferable to all other operative methods. Whenever possible the vaginal wound should be closed immediately.

REYNIER is for strict individualization in the selection of operative methods. He has operated in 210 cases of pelvic suppuration. Laparotomy was performed in 110 cases with a mortality of 8 cases. In 45 cases incision into the posterior vaginal fornix was made, with no immediate death, but in 2 cases a subsequent vaginal and abdominal hysterectomy became necessary, which was fatal in both cases. Of 52 cases of vaginal hysterectomy 6 died.

JACOBS advises anterior, posterior, or lateral colpotomy for all extraperitoneal suppurations. The opening should be made with the thermo-cautery, to avoid new infection of the wound. All intraperitoneal collections of pus should be attacked per vaginam, and laparotomy be reserved for exceptional cases. Vaginal hysterectomy cannot be compared with laparotomy; then the latter is only a means to reach the diseased organs. Jacobs removes the clamps immediately after the operation and then ligates the stump; drainage per vaginam of purulent abdominal contents, otherwise closure of vaginal wound.

SÉGOND agrees fully with Bouilly's report.

DOLÉRIS says that in many cases an accurate diagnosis cannot be made until the operation. As a whole he prefers laparotomy to the vaginal route. In 15 very difficult cases in which laparotomy did not promise success he performed hystero-salpingo-oophorectomy. The patients were all cured.

MANGIN: For subacute pelvic suppuration the vaginal incision is recommended. In mild cases medical treatment should be tried. If surgical interference becomes necessary, operate in the afebrile state only. Partial extirpation of ovaries and tubes often suffices. In five per cent of cases hystero-salpingo-oophorectomy became necessary.

ACCONCI: Wherever possible, conservative treatment; if operative interference is necessary, perform the radical operation per vaginam.

ADENOT: Vaginopuncture in abscesses surrounding the vagina. In complicated pelvic abscesses radical operations per vaginam are alone followed by success.

SABINO COELHO: Small pyosalpinx with little adhesions should be treated by colpotomy after Martin. In marked pelvic suppuration with extensive adhesions laparotomy or vaginal hysterectomy is advised, according to whether the seat of the disease is high or low in the pelvis.

Precocious Menstruation.—Pluyette "The menses appeared in the fourth month, and, with the exception of two months during which vicarious epistaxis existed, the child men-

struated regularly. The child's whole body was prematurely developed.

The Physiology of Menstruation : A Microscopical Study.—Westphalen." During menstruation cells of epithelium and the underlying connective tissue undergo in part fatty degeneration, in part they become detached, especially those of the surface, and are carried off; the main portion of the mucous membrane, however, remains intact. The premenstrual condition is restored by an indirect nuclear division (mitosis). The period of proliferation is between the sixth and eighteenth days post menses; this is followed by the period of rest, during which proliferation ceases.

Psychological Consequences of Suppressed Menstruation.—F. Barnes ' reports the following case: Miss S., aged 27, menstruated regularly since her sixteenth year. After a great shock this function ceased and she became almost an imbecile, with swollen legs, abdomen distended by flatus, and distended and prominent eyes. Medical treatment failed. The os uteri was divided bilaterally and tincture of iodine applied to the endometrium twice a week for three weeks. Normal menstruation began a month later, and the mental and physical symptoms began steadily to disappear.

Animal Extracts.—Leith Napier ' discusses the administration of animal extracts and allied substances during the menopause. Good results have been obtained by him from the use of thyroid extract.

Ovarian Extract in the Treatment of the Symptoms of the Natural and Artificial Climacteric.—Mond " reports twelve cases in which the administration of ovarian extract was followed by the best results. The patients were suffering from various nervous disorders the result of castration, natural menopause, and incomplete development of the uterus and adnexa. The drug causes no disagreeable effects; pulse and temperature remain normal. Improvement showed itself on the second or third day, and in about two weeks the patients believed themselves cured. To exclude suggestive effects, the patients received tablets which looked like those of ovarian extract but contained inert substances; these failed, however, to give relief.

Abnormalities of the Female Genitalia.—This is the subject of an article by F. J. McCann." Two cases personally observed are described.

Epispadias in Woman.—J. W. Ballantyne " says that true epispadias in the female is very uncommon. Its only symptom is more or less complete incontinence of urine. This may be absent in slightly marked cases. No history of any hereditary malformation is given. The deformity consists in the absence of part of the anterior urethral wall, with the division of the clitoris into two parts, and the presence of a median gutter or groove in the region of the anterior commissure of the vulva; the symphysis pubis is normally closed, and so is the anterior bladder wall. In its least marked form (clitoridian epispadias) the urethra simply opens above the clitoris instead of below it;

but in all the other forms (subsymphyseal and retrosymphyseal epispadias and subsymphyseal vesical exstrophy) there is splitting of the clitoris and the existence of a median furrow. Palliative treatment consists in the wearing of a urinal; radical methods are plastic operations for lengthening and narrowing the urethra and for restoring the anterior vulvar commissure and clitoris.

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DISEASES OF CHILDREN.

Acute Infectious Diseases in Childhood, Hygienic Treatment of.—Meinert¹ discusses this subject as follows: *Diet.*—It is well to allow a child over 2 years very largely to follow his own taste. He will decline solid food at first, and during convalescence will call for those things which he likes best. The author finds that sweets are not only harmless but useful, especially after the febrile stage has passed. If starches are preferred to sugar this should be taken into consideration. Appetite often returns when solid food is given—i.e., when the food is well masticated and thereby covered with saliva. Sufficient quantities of water are most important, and when not retained by the stomach must be given per rectum. Meinert has discarded the use of alcohol in pediatric practice. *Skin.*—Then, too, a mild and agreeable bathing should be preferred to complicated forms of hydrotherapy. Baths, when necessarily prolonged, must be at a temperature which is pleasant to the child. Perspiration should be washed (not wiped) off as often as necessary. *Clothing* of the bed and person must be sufficiently warm and often changed. The desire to get out of bed as soon as possible may be gratified, and attempts at walking regulated by the child's strength, while he may go out of doors as soon as the weather permits.

Adenoid Vegetations in the Naso-pharynx.—In an exhaustive article upon this subject, Herbert F. Waterhouse¹ demonstrates the importance of diagnosis and treatment of these growths in order to prevent or cure aural disorders, difficulties of speech, labored respiration, and sluggish or delayed mental powers. Still, the growths may be present in certain instances and of considerable size without giving rise to symptoms noticeable by the patient. The faucial tonsils are very frequently, though by no means always, hypertrophied; and it is noteworthy that, however large these structures may be, it can be taken as an undoubted fact that hypertrophied faucial tonsils never by themselves enforce mouth-breathing, this being in children almost diagnostic of post-nasal vegetations. The author has almost invariably found that the removal of adenoids improves within a few weeks to a remarkable extent the general nutrition of the patient. On the other hand, adenoid masses large enough to give rise to obstruction to nose-breathing have usually a most harmful influence upon the general health and nutrition, and their presence is always a menace to the hearing and respiration. In slight cases in which there is but little obstruction to nasal respiration, and in which there is reason to believe that if we can reduce the chronic inflammatory condition and thus the vascularity of the mass we may restore normal nose-breathing, it is advisable to commence treatment directed to this end. We may gently syringe or spray the inferior meatus with various dilute saline solutions at the temperature of the body, or we may employ the following :

℞ Glycerin. acid. tannic.... . 3 iij.
Aquamad 3 iij.

One teaspoonful to a wineglass of water, to be injected down the nose night and morning.

By the employment of these means the soft, vascular adenoids in some cases seem to contract and nose-breathing improves, provided that further catarrhal attacks can be averted. In the more common, firmer variety of adenoid tumor mass it is ineffectual and the removal of the growth is called for.

Gronlech² has studied one hundred and ninety-two cases of adenoids ; of these, twenty-four, or thirteen per cent, had enuresis. The adenoids were removed in twenty-three, with immediate subsidence of enuresis in twelve and marked improvement in five ; slight improvement in two ; one failed to report, while in three no improvement followed. In four cases the adenoids reappeared and were followed by enuresis, which ceased again when the adenoids were removed.

Samuel G. Dabney³ contributes a short article on the subject of adenoids.

Angina, Non-diphtheritic, Etiology and Bacteriology of.—Veillar⁴ has analyzed twenty-two cases, of which ten were catarrhal, seven pseudo-membranous, and five phlegmonous. The bacteria present (streptococci alone or with the pneumococcus or staphylococcus) were the same in all these forms.

While the inflammatory process differs in appearance, it is of the same nature, and the anatomical and clinical differences are due to differences in the part attacked, or the seat of operation of the organisms, the virulence of the germs, and the resisting powers of the patient.

Anorexia, Hysterical.—Kissel^{*} reports a case of severe hysterical anorexia in an 11-year-old child. The patient had a family history of nervous temperament, refused to eat because she thought she had been eating too much, and became reduced to the weight of forty-eight and a half pounds. The hypnotic state could not be induced, so forced feeding was resorted to and much difficulty encountered. After four months in the hospital she was discharged weighing seventy-nine pounds and apparently perfectly well.

Barlow's Disease.—Pinner^{*} gives a contribution to this disease. He reports three cases, of which two were cured and one died. He thinks the disease owes its nature to a "stormy" bone development, which predisposes to blood extravasation through the rich blood supply of the involved tissue. In favor of this view are the facts that the bones increase in length during the disease, and that the lesion is localized about the places of most active growth—*i. e.*, the epiphyseal cartilage, periosteum, and the ossification points of membranous bones.

Birthmarks.—The treatment of these disfigurements is fully discussed by Ellice M. Alger^{*} in an article on the subject.

Carbolic Acid in some Catarrhal Diseases of Children.—The use of carbolic acid is advocated by S. Henry Dessau^{*} in cases of the dry, irritant cough or bronchitis of influenza as an almost specific remedy. He uses a one per cent solution of the chemically pure acid, to which is added a small quantity of glycerin or simple syrup. The dose for children under 5 years of age is a teaspoonful, equal to between one-half and two-thirds of a drop of carbolic acid. This is given every two hours until improvement is decided, when the intervals may be increased until the cessation of all symptoms is complete.

Catarrh, Chronic, of the Nose, Throat, and Ear.—Wendell C. Phillips^{*} has an extended article on the causes of this affection in children. It is a matter of general comment, the author says, that a large proportion of the chronic middle-ear affections, both suppurative and catarrhal, date from some one of the exanthemata. Patients suffering from these diseases exhibit a general inflammatory condition of the entire nasal and naso-pharyngeal mucosa, frequently accompanied by extensive induration. During the course of these affections the delicate child-membranes are in a fit condition to take on a sub-acute or chronic form of inflammation, especially if the patients have received careless or improper treatment, have lived in badly ventilated rooms or under poor hygienic surroundings. It must be borne in mind, however, that the exanthemata usually occur at a time of life when catarrhal diseases may commence from many other causes. Cases arising from inherited syphilis form a distinct class with grave constitutional as

well as local symptoms. Heredity cannot be overlooked as a causative agent, as the tendency to catarrh, whether by diathesis or malformation of the nasal or naso-pharyngeal passages, may be inherited. Climate is an important factor in the development of these affections, though Bosworth's opinion that there must be an essential cause other than climate seems to be correct. The attendant congestion resulting from a succession of attacks of acute rhinitis, especially when neglected, probably results in extensive tissue changes. It must be borne in mind that colds are often caused by excessive clothing and badly ventilated and overheated rooms. Lymphoid or adenoid tissue in the vault of the pharynx may well be considered one of the causes of catarrh of the nose, throat, and ear, in fact of the entire respiratory tract. Injuries to the nose resulting in deformity of the septum or displacement and enlargement of the turbinated bodies are sometimes the causative agent in the development of chronic catarrh. Passing on to a consideration of the means for the prevention of these catarrhal conditions, the author states that there can be no doubt that most physicians are careless in the treatment of the nose and throat during the course of the exanthemata, and that much can be done to prevent serious results in the way of cleansing, antiseptic, soothing, and healing applications. If lymphoid or adenoid tissue is present in the vault of the pharynx it should be removed at once. The family physician should take pains to instruct mothers how to care for children so as to prevent in a large measure a succession of colds. This should lead him into a careful investigation of the habits, diet, clothing, and environment of the little ones. The nasal toilet should be taught to children as a part of the daily toilet. They should be instructed in the use of sprays, a procedure to which they soon become accustomed. An injury to the nose should be followed by an intelligent examination of the nasal structures and a correction of any deformity that may exist.

Chorea, Sydenham's.—William B. Pritchard¹⁰ presents an analytical study of one hundred and twenty-five cases of this disorder, from which the following conclusions seem warranted: (1) Chorea is more common in females, in the proportion of two to one, than in males; (2) the disease is more prevalent in the spring months than at any other season of the year; (3) a neurotic heredity is of unquestionable importance as an etiological factor; (4) the disease seems to be especially liable to development in the unusually intelligent and precocious; mental deterioration or perversion occurs only as a result, as a rule, of relapses of the disease; (5) it may occur independently of either rheumatism or heart disease, but the frequency with which the three are found to be present in association is more than a coincidence.

Cirrhosis of the Liver.—H. D. Rolleston¹¹ states that, though somewhat rare, cirrhosis of the liver in children has recently attracted considerable attention. In addition to the forms of cirrhosis met with in adults, children are liable to two

special forms, of which one is the peculiar cirrhosis of congenital syphilis, and the other, not so often recognized, the fibrotic change met with in rickets. The author gives a full description of the pathological changes in these two special forms. From cases collected by the author it appears that in children cirrhosis is less frequently associated with tubercle elsewhere in the body than is the case with adults, where the two processes are often found together and are probably both the result of a common cause—alcoholism. The occurrence of a typical gin-drinker's liver in a child who has never tasted alcohol renders the ordinary explanation of cirrhosis untenable for all cases. Toxic materials, whether carried by the portal vein or by the hepatic artery, may give rise to interstitial nephritis. Cirrhosis sometimes follows at a considerable interval the incidence of one of the infectious diseases. A plausible theory of biliary cirrhosis or Hanot's hypertrophic cirrhosis with chronic jaundice is that it is due to a poison excreted into the bile canaliculi and minute ducts, which there sets up cholangitis and inflammation in the surrounding parts. The prognosis is bad, and when symptoms have sufficiently developed to warrant a diagnosis it is probable that the issue is invariably fatal.

Club Foot.—John Poland "has an article on the treatment of congenital club foot in infancy. He is decidedly of the opinion that proper treatment should be begun within a few hours after birth. A review of the treatment of this deformity is given by Augustus Thorndike."

Congenital Defect of the Right Side of the Thorax and Hand on Same Side.—Joachimsthal "reports a case of this kind. The sterno-costal portion of the pectoralis major was absent, the shoulder was prominent, and there was scoliosis; there were only three metacarpi in the right hand, and three fingers, of which two were united by syndactylism. The Röntgen rays were applied to arm and hand, and showed the forearm and wrist to be normal. Twelve such cases are to be found in medical literature.

Congenital Dislocation of Hip.—In an interesting article on Lorenz's operation Edward H. Bradford "presents four cases of congenital dislocation of the hip in which only an arrest of the development of the deformity was noticed several years after treatment by means of thorough traction with confinement in bed for years. The author questions whether the surgeon is justified in subjecting a patient to such a method under the circumstances. He then gives a detailed description of Lorenz's operation, and cites several cases which, though recent, correspond with the results reported by Lorenz which have been tested as to permanency by several years' use. A. H. Tubby," in discussing the treatment of this deformity, states that there are three methods—(1) extension entirely in the recumbent position; (2) forcible reduction by Paci's method with subsequent fixation; (3) reduction by operative measures. The author believes that the last mode of treatment is still on its trial,

because sufficient time has not yet elapsed to prove the permanency of the cure.

In an article on this subject Royal Whitman * states that, though a satisfactory explanation of the causes of this displacement is still wanting, the anatomical condition is now well understood. The changes, which at an early age are in great degree the result of altered function, are progressive in character under the influences of weight, pressure, and attrition on the parts immediately involved, and are accompanied by corresponding effects on the use and ability of the limb and on the posture of the body. It is evident, then, that whatever is to be done for the relief or cure of the disability must be undertaken at as early a time as practicable. The hopelessness of cure by means of braces, splints, and rest in bed has led to the abandonment of those forms of treatment. There seems now to be a tacit acceptance of the fact that there can be but one effective treatment of this condition, and that is to replace the head of the bone in its normal position, either in the acetabulum or an enlargement of its rudimentary indication. The credit of this advance belongs to Hoffa, whose method has been improved and modified by Lorenz. So far as the immediate effect of the operation is concerned, it may be considered a success if the head of the bone is securely held in the new position, if there be no contractions that distort the limb, and a range of motion from complete extension to forty-five degrees of flexion, sufficient to allow the patient to sit with comfort. The author gives a full description of a case successfully treated, with the details of the operation. It is probable that the only other method of treatment likely to be extensively used in the future is the attempt to replace the dislocation by manipulation without open operation, as advocated by Paci; but this method must have a much more limited scope, for if its object is to actually replace the dislocation it is not likely to be successful except in young children, because the acetabulum is not of sufficient size to contain the bone, and because the opening through the elongated capsule is impossible, not to mention other difficulties in the resistance of muscles and ligaments.

Congenital Occlusion of the Urethra.—Theodore G. Thomas" reports a case of this malformation which was treated by thrusting a small trocar through the tissues where the urethra should have been, and keeping it there for four days. A perfect control over urination followed.

Congenital Tumor.—J. Rutherford Morrison" reports a case of a tumor on the face of an infant which had the appearance of coming out of the side of the nose. It hid the right eye. It was successfully removed and examined histologically, and reported to be a teratoma by J. H. Targett. J. W. Ballantyne says that it may be regarded as a teratoma, as an exoprosopus amorphus, or as an accessory upper jaw.

Cretinism.—A discussion upon sporadic cretinism forms an article which presents the views of W. Rushton Walker," T. Telford-Smith, John Thomson, Victor Horsley, Fletcher

Beach, and G. E. Shuttleworth. Walker notes the improvement from the use of the thyroid extract in a large number of cases. Telford-Smith has tried the effect of the thyroid treatment in idiots belonging to the so-called Mongol type, these nearly resembling the cretin both in physical aspect and mental character. He has also applied the treatment in some other cases of idiocy in which the only resemblance to the cretin has been in the condition of mental apathy and disinclination to movement or speech, and where there has been evidence of a diminished metabolism as shown by a constant subnormal temperature. In both kinds of cases there has been a visible improvement. Thomson discusses the variations in, and the limits of, the improvement of cretins at different ages under the thyroid treatment. The latent capability of reacting to thyroid treatment by a renewed growth is apparently in direct proportion to the youth of the patient when the treatment is first begun. Horsley is of opinion that cretins whose bones show signs of softening should be kept lying down, as they would in ordinary rickets. Grafting thyroid into the peritoneal cavity was only a temporary measure, equivalent to injection of the thyroid material, in no way constituting a real transplantation of the gland, which should be effected by embedding the gland in connective tissue. Beach presented the many etiological factors which combine to produce the disease.

Diphtheria.—L. Rosenberg" reports a case of antitoxin poisoning. In one hour after the injection the child became cyanotic. This was accompanied by a chill followed by unconsciousness and collapse, from which she slowly revived under the influence of large doses of powerful stimulants. Alfred King" reports a case in which the use of antitoxin was followed by a convulsion. A. M. Gassage" has experimented on the influence of glycerin in culture media on the diphtheritic bacillus. He found that the appearance of the Klebs-Löffler bacillus, after growth on these glycerin media, when stained with methylene blue, is very characteristic and easily recognized. Greef" reports the results obtained by serum therapy in diphtheria of the eye and in post-diphtheritic paralysis of the eye muscles. He has collected forty-two cases of true diphtheria of the eye treated with serum, of which thirty-eight were cured, two died, and in one the serum seemed to have no effect. Four cases were pseudodiphtheria (only streptococci were found), of which three were not affected by the serum and one was slightly improved. Serum cases show a larger percentage of paralysis than those not treated with the serum. As to the curative effect of serum injections upon post-diphtheritic paralysis of the muscles of accommodation, no conclusions can be drawn from the very few cases reported thus far. T. J. Bokenham" has an article on the preparation of the antidiphtheritic serum. In some remarks on diphtheria Alfred Hill" dwells on the liability of animals, particularly of cows and cats, to attacks of the disease, and their susceptibility to inoculation with cultures of the diphtheria bacillus. The ba-

cillus, moreover, grows readily in milk, and milk is considered, after many careful investigations, as a real source of danger. Meredith Richards" writes on post-scarlatinal diphtheria. F. E. Waxham" presents a report of five hundred cases of intubation of the larynx. J. C. Thresh" has a discussion on diphtheria in town and country. Gordon Sharp" has devoted an article on the soil in relation to diphtheria and its organism.

Neuroth" gives some further information on the serum treatment of diphtheria in the Caroline Children's Hospital of Vienna. From the end of August, 1895, to the beginning of July, 1896, one hundred cases of diphtheria were admitted and ninety-nine injected. Of these, thirteen died and eighty-seven were cured. In seventy-eight the Löffler bacillus was present; in ten no bacteriological examination could be made; in twelve Löffler's bacillus was absent, in spite of a typical clinical course of diphtheria. The larynx was involved in twenty-nine and the nose in twenty-eight cases. Seventy-two cases received 1,000 antitoxin units (eight died); two received 1,300; three received 1,500; seventeen received 2,000 (four died); two received 2,300; three received 3,000. In three septic cases the serum had no effect and the children died. Of forty-seven injected on the first and second day, two (four and one-half per cent) died. Relapse occurred in several cases, but was never severe. Albuminuria occurred in twenty-eight cases, three of which showed hemorrhagic nephritis at the autopsy. Cardiac symptoms occurred in five, two of which were fatal. Palate paralysis was observed in two and exanthemata in sixteen cases. R. T. Holden" gives a favorable report of some cases of diphtheria treated with antitoxin. R. C. Evans" presents a report of the treatment of twenty-six cases of malignant diphtheria by the use of antitoxin, without fatality, during the winter of 1895-1896. L. W. Dallas" devotes an article to the general review of diphtheria, with special reference to the use of antitoxin. The management of diphtheria is treated by A. B. Stewart." L. M. Maus" reports a case of acute multiple neuritis (bilateral) resulting from an attack of diphtheria.

Ear Disease.—William R. Stewart" gives the report of a post-graduate lecture on some complications of middle-ear supuration. Charles H. Burnett" presents the report of a case of acute otitis media caused by the nasal douche. Secondary infection of the middle ear and mastoid cavity occurred from subsequent improper treatment. Operative measures were followed by relief. Halasz" reports three cases of chronic middle-ear disease which were treated by trichloracetic acid. This remedy has the power of ending chronic otitis media, cicatrizing drum perforations, and restoring hearing. Cocaine must be applied to the ear first, and then a crystal of the acid, slightly warmed. Warm water is then douched into the ear to remove the excess of acid, and aristol or boracic acid blown in afterward. This is repeated once or twice a week. It is especially useful between the ages of 5 and 25 years. M. D. Lederman" reports three cases of cerebral disease following middle-

ear suppuration. Louis J. Lautenbach" has an article on the use of oto-massage for the relief of deafness and in the treatment of suppuration of the ear. Max Thorner" has an article on the serious complications of suppuration of the middle ear, and reports some cases. Percy H. Fridenberg" has an article on hygienic principles in the prevention of ear diseases. J. Henry Fruitnight" discusses the importance of early diagnosis and treatment of inflammation of the middle ear. B. F. Church" has an article on acute inflammation of the middle ear.

Empyema.—The surgery of this disease is fully discussed by T. N. Rafferty." He believes that if the bacteriological examination of the pus reveals the presence of pyemic cocci, death will follow under any form of treatment; while if there are only staphylococci or pneumococci, removal only is necessary, without irrigation; but if streptococci are found, resection and washing out are necessary. In many cases of pleuritic effusions, both serous and purulent, no microbes can be found. It has been assumed that such cases are tuberculous, but there seems no sufficient reason for such conclusion. The author questions the propriety of the extensive resection of ribs in any but the most desperate cases. As for other novel procedures occasionally advocated, such as curetting the pleural cavity, etc., they need only to be mentioned to be condemned. The indiscriminate use of antiseptic injections is also to be strongly deprecated; if done at all it should be at later periods, and then the utmost caution should be observed. W. Huntingdon" reports a case of double empyema with recovery. The case was treated by incision and drainage tube.

Endothelioma of Cerebral Membranes.—Frederick A. Packard" reports a case in which this growth occurred with Jacksonian epilepsy and wasting of the paralyzed muscles.

Epidemic Opisthotonos.—Holdheim" presents a contribution to the bacteriological diagnosis of epidemic opisthotonos by means of lumbar puncture. In four cases the fluid removed by the puncture gave a pure culture of the meningococcus intracellularis of Weichselbaum, and this established the diagnosis of epidemic cerebro-spinal meningitis, verified by autopsy in two cases; one case recovered.

Epilepsy, Cortical.—Weissgerber" reports a case of this disease in a boy 10 years of age, cured by operation.

Functional Dyspepsia.—J. M. G. Carter" illustrates an article on this subject with several cases, and gives the following as the chief indications to be met with in this condition: (1) Correct the food both as to quality and quantity, (2) try to render the stomach and intestines aseptic, (3) assist Nature in her effort to restore the natural functions and tone up the system.

Gangrene of Lungs.—George N. Acker" reports a case of this disease complicating typhoid fever.

Habitual Constipation in Children.—Durante" writes that this disorder is dependent upon several causes: the sigmoid flexure is proportionately larger than in adults; the nervous function is less developed; the child is in a horizontal position

a greater part of the time; rachitis is also a factor in some cases. Lack of sufficient fat in the food is the cause in by far the greater number of cases.

Hemorrhagic Disease.—John Lovett Morse " presents an unusual case of hemorrhagic disease of the new-born.

Hernia.—Raymond Johnson " gives the report of a clinical lecture on hernia in childhood.

Hernia of the Umbilical Cord, Rupture of.—Piering " reports a case of this accident in which laparotomy was successfully performed in the first hour of life. There was an unusually large hernia of the umbilical cord, with rupture of the sac and prolapse of the intestine.

Hip-joint Disease.—T. Pickering Pick " gives a clinical lecture on the operative treatment of this disease in children.

Hysterical Mutism.—Zuppinger " reports a case of this disorder in a boy 12 years of age, occurring after an attack of hystero-epilepsy. The mutism lasted six weeks, and was cured by verbal suggestion and local electro-therapy after hypnotism had failed.

Idiocy.—In a well-illustrated article Frederick Peterson " defines and classifies idiocy, including the forms affecting infants and children.

Indigestion of Breast Babies.—James Carmichael. " Defective hygienic conditions affecting both mother and child, general debility causing inability to suckle, are some of the causes of indigestion in nursing infants. The symptoms are those of malnutrition—the child is soft and flabby, always crying, never satisfied. Its skin is harsh and dry; the tongue somewhat red, often slightly furred. Vomiting sometimes occurs. The stools are usually loose, pale, ashy gray, sometimes greenish or mixed gray and green. The soft curd of the mother's milk is present, undigested, in little granular-looking masses. There is an excess of mucous secretion, sometimes little streaks of blood. Diarrhea is more frequent than vomiting. The mother's milk is, as a rule, better adapted to that of her child than the milk of a wet-nurse. The hygienic conditions of the mother should be regulated; the milk must be examined. If deficient in quantity, lighter and more quickly digested nutriments should be given; if excessive, fluids must be reduced and solids increased. Irregular suckling must be prohibited. To increase solids in the milk give the child the breast more frequently, prevent the mother from overexerting herself, and do not let her drink too much. To decrease solids order longer intervals between the nursing, more exercise, more fluid nutriment. Increase of fat indicates the need of less animal food in the dietary. Diminution of fat requires a larger quantity of animal food. If the amount of proteids is too large allow plenty of exercise; decrease it if the amount of proteids is deficient.

Infant Feeding.—D. S. Maddox " gives a review of this subject, paying especial attention to the manufactured foods. Feeding infants with modifications of cow's milk receives atten-

tion from H. F. Slifer." Louis Fischer" contributes an exhaustive review of this subject. J. Madison Taylor," in a short article, emphasizes the importance of "liberalizing" now and then in scientific infant-feeding.

Infantile Diarrhea, The Bacteriology of.—In the treatment of this subject Allan Macfadyen" considers three factors: (1) the bacteria present in health and in the course of disease; (2) the easily decomposed food—milk; (3) the susceptible organism of the child, predisposing to such complaints.

Inguinal and Scrotal Cysts.—Thomas H. Manley" states that the most common defect in the tracts which convey the testes out through the abdominal walls into the scrotum is an escape of the abdominal viscera with the testes, or a reduplication of the peritoneum destined at the time, or later, to serve as an envelope for the extrusion. From this pouch the hernial contents may recede into the abdomen, its neck becoming obliterated, but the lumen of the sac remaining and its secretion continuing, when a cyst of definite anatomical elements may develop. Again, the funicular process remains open for a time, or is imperfectly closed, the peritoneal fluid draining into the tunica vaginalis and distending it, when we have a hydrocele with a definite etiology. Myxomatous tissue, which abounds in intra-uterine life in excess of any other, remains in the genito-urinary tract, along the spermatic cord, everywhere from the epididymis to the internal ring, and may provide the source and pabulum for spermatocoeles or sarcocoeles. These may appear isolated or may be associated with hernia. In the female infant they advance along the canal of Nuck.

Insanity in Children.—In a short article on this subject W. W. Ireland" remarks that insanity in children uncomplicated with idiocy is a very rare disorder. Amongst the predisposing causes is a neurotic heredity. Amongst the exciting causes are unhealthy substances in the blood following nephritis, or intoxication induced by the use of diseased rye, maize, and by ergotism and pellagra.

Intestinal Invagination.—In an article on the operative treatment of this disorder Alsberg" reviews the literature and statistics, and reports in detail four cases, of which three were cured by operation and one died.

Malignant Endocarditis.—In an interesting and exhaustive article upon this subject J. Henry Fruitnight" states that this disease always results from an infectious process which has followed an assault upon the endocardium by some variety of microbe. For the development of a malignant endocarditis the micro-organism must first gain access to the blood, which is not always usual or easy, and, besides, a susceptibility to lesion on the part of the endocardium must also pre-exist. In all likelihood the disease is brought directly by the blood to the valves and not through the capillary channels. In some cases the microbes may have gained entry through the respiratory tract. The right heart is very infrequently affected in comparison with the left side of the organ, notwithstanding the fact that

the infected matter usually first passes through the cavities of the right side. It has been proven that micro-organisms have a predilection for blood rich in oxygen, and hence more favorable conditions exist in the left side of the heart for the activities of the microbes. Microbes are met with in every case of this disease, but they are not always, nor are they all, of the same variety. The pyogenic varieties of micro-organism seem to prefer the mitral valve for their point of attack, whilst the pneumococcus selects the aorta for its assault. The disease is much more virulent and death follows very rapidly when the infection is due to the streptococcus. When due to staphylococcus the course of the disease is less rapid. As the disease is, in the majority of cases, caused by the combination of different microbes, the symptoms will be mixed and not at all clearly defined. A commingling of the several kinds of bacteria renders their action more violent than when a single variety is operative, and likewise when the vitality of their host is depreciated the pathogenic activity of the microbes is augmented. The disease may be primary, or it may be secondary to an acute rheumatism or pneumonia or to various specific fevers, or it may be allied to associated septic processes. The author then goes on to describe the pathological changes found in the endocardium, the symptoms, and the treatment.

Marasmus.—W. Soltan Fenwick "believes that the most interesting variety of infantile atrophy is that which ensues from the habitual administration of certain deleterious substances, mis-called "foods," which from their chemical composition are incapable of adequate digestion and absorption by the immature digestive apparatus of the child, and not only fail to supply the proper amount of nutriment required by the growing tissues, but by exciting an insidious disease of the alimentary tract effectually prevent the beneficial results which might be expected to accrue from remedial treatment. The author then goes on to give a detailed account of the pathological appearance of the digestive organs observed in fatal cases. The fact that the secretion of hydrochloric acid fails in cases of catarrh of the gastric mucous membrane affords a certain help both in the diagnosis and prognosis of the chronic disease of infancy. It may be said that the reappearance of free acid in the stomach is a sure sign that with ordinary care the child will recover its flesh and strength. Even in those cases where free acid continues absent for a length of time, there is always hope as long as the contents of the stomach, after a test meal, contain an excess of mucus and possess an appreciable quantity of combined hydrochloric acid.

Mastoid Disease.—B. Alexander Randall "has an article on extradural abscess from mastoid disease, with the report of a case. Dunbar Roy" contributes some remarks on primary inflammation and abscess of the mastoid, with the report of a case.

Melæna Neonatorum.—Floyd M. Crandall "reports an unusual case of the disease.

Meningitis, Simple.—Max Mailhouse " has a complete and exhaustive article upon this subject.

Mumps.—Some notes on the bacteriology of mumps are given by P. M. Mecroy " and J. J. Walsh." The authors succeeded in isolating a micrococcus from the secretion of the parotid as found in Steno's duct before its entrance into the mouth, which grows in pairs, occasionally in fours, rarely in larger groups. Each individual coccus is very regularly rounded and about the size of the ordinary pus coccus. The colonies are small, white, glistening, distinctly defined, regularly circular spots, at first discrete and of very slow growth, gradually coalescing.

Muscles of Rachitical Infants.—In an interesting article on this subject A. Jacobi " remarks that the feebleness and insufficiency of the muscles of the infant are much more evident in those suffering from rachitis. What has been called rachitical pseudo-paralysis is but a confirmation of the fact that the muscular structure is insufficient. This condition may be universal, or only a certain class or combination of muscles are the principal sufferers. Scoliosis is very common in rachitical children and those who have been so. It is true that rachitical children are apt to be very strong after recovery, but the pressure that children are subjected to in our schools, the expensiveness of fresh air in large cities, and the exposure to indoor life more than one-half of the year in our climate allow but little resurrection to our rachitis-smitten little ones. The feebleness of the infant's muscles when intensified by rachitical malnutrition is evidenced by nothing better than the symptoms connected with the insufficiency of intestinal muscular tissue in early life.

Nasal Obstruction.—The importance of an early diagnosis and treatment of nasal obstruction in children is noted by Adolph Bronner." The results of nasal obstruction are divided into two classes: (1) the effect on the general health and the development of the child, and (2) the effect on the neighboring parts and organs. A subject worthy of consideration is whether children with nasal obstruction are more liable to infection (local or general) than children who breathe through the nose.

Nephritis in Children.—This subject, with some illustrative cases, is considered by Henry E. Tully."

Nephritis in Infantile Scurvy.—John Jenks Thomas," after discussing this complication, concludes that (1) in infantile scurvy the kidneys are probably affected in a large proportion of the cases, at least during the acute stage of the disease; (2) in this disease the catarrhal nephritis is probably caused by the effect upon the kidneys of the presence of an irritant in the blood, and that this irritant is probably that which by its effect upon the renal walls produces the hemorrhages; (3) cases of infantile scurvy occur in which the renal symptoms are the first, or perhaps the only ones, observed; (4) in suspected cases of the disease the condition of the urine may enable the physi-

cian to come to a decision or to make a diagnosis much earlier than would be otherwise possible.

Ophthalmia Neonatorum.—In a review of this subject R. Ferguson "remarks that the inference which the labors of investigators warrant is that the infection which causes this disorder is gonorrheal. He does not believe the inoculation occurs *in utero*. He believes that Credé's method is the treatment *par excellence* for the prevention of the disease.

Oxygen in Acute Capillary Bronchitis.—In this disease, says John L. Corish, "the lining membrane of the lobules becomes engorged with blood and a mucous secretion is thrown out. This collects in the capillary tubes and forms a barricade, so to speak, by means of which inspired air is prevented from penetrating into the lobules. The residual air in the lobules becomes absorbed by the blood and a vacuum is created. The lobules, being unsupported by the pressure internally, collapse; the blood becomes unable to extract sufficient oxygen for bodily requirements, though the different sets of direct and accessory inspiratory muscles make an effort to overcome this condition. A general cyanosis results, and the child becomes indifferent to the partaking of nourishment, its whole efforts being directed to obtaining air. The oxygen, being introduced into the system in abundance, combats the cyanosis by relieving the vasomotor irritation and lessening the production of the secretion. The heart action, having become very feeble, is sustained by the oxygen, which, as is very well known, acts by restoring the capillary circulation to its normal condition.

Papillomata of the Larynx.—G. Hunter Mackenzie "believes that these growths are the most frequent variety of neoplasms found in the larynges of children. The paper is intended to direct attention to tracheotomy not only as a palliative for the relief of the breathing, but as a radical measure for the complete and permanent removal of the growths. F. Lohrstorfer "reports a case of laryngeal papilloma in a child 3 years of age. The growth was broad-based, entirely encircling the interior of the larynx at the level of the vocal cords, and completely blocking the passage. Several intubations were performed, the last tube remaining in three weeks. In spite of this treatment the patient died of dyspnea.

Pemphigus.—Philip F. Barbour "reports an unusual case of this disorder.

Perforate Septum Ventriculorum.—J. P. Crozier Griffith "reports a case of this disorder, the diagnosis, usually difficult, being based on a systolic murmur heard loud over the apex and transmitted to the left and back. The heart was enlarged and there was accentuation of the second sound. A most important fact was that the murmur was louder at the left edge of the sternum and at the xiphoid cartilage than in the mitral area proper.

Pneumonia.—M. V. Ball "gives his experience with ice in the pneumonia of children. He has used it with patients of the age of 4 to 10 years. If the ice is applied when the cough is

short and dry, the fever is high, and the respiration rapid, the cough is relieved, the fever becomes more moderate, and the pulse stronger. The ice is well borne. It is left on constantly day and night for the first seventy-two hours, and then it is applied for periods of half an hour with intervals of rest of half an hour until the crisis. J. Walter Carr " presents a clinical lecture on pneumonias in children and their sequelæ.

Psychic Deafness in Childhood.—Heller " writes that true deaf-mutism is to be differentiated from psychic deafness, of which the author has described seven cases. Two objects are to be kept in mind in the pedagogics of these cases: (1) to combat the permanent state of excitement, and (2) to awaken and to stimulate the powers of concentration and perception.

Puberty.—J. Madison Taylor " has an article on puberty in girls and certain of its disturbances. He says that girls who become pallid and feeble about the time of puberty constitute a more or less constantly recurring group of cases. If any organic disturbance is detected these difficulties should be removed, if possible. In this way other disordered states are helped, and final recovery, partial or complete, may be the result. Often very early the human female begins to suffer from slowly-acting bowels. This is usually followed by a less active circulation. The girl develops sedentary habits, the blood becomes defective in hemoglobin, and the heart exhibits evidence of dilatation or there is at least a flabbiness about it. In these cases the digestion and condition of the bowels should receive attention, and stimulating baths and suitable exercise advised.

Purulent Ophthalmia.—E. Oliver Belt " reports a case of this disease which shows the value of formalin in promptly arresting ulceration of the cornea, and also its remarkable effect upon a large prolapse of the iris, which was reduced and a round, mobile pupil obtained without anterior synechia.

Ringworm of the Scalp.—Charles W. Allen " has an article on the treatment of this disorder in institutions. Isolation of the case is of the first importance. Those who have almost recovered must be kept apart from the new cases. Some are more susceptible of rapid cure than others, but unless they are removed at a time when a cure seems to have been effected they run danger of becoming contaminated anew. Nor are we justified in returning these apparently cured cases to their former surroundings amid healthy children until they have undergone a period of probation in a non-infected place of isolation and observation. One prophylactic measure is the exclusion of the patent clipper from the toilet armamentarium. Even the scissors should be sterilized before being used on a second case. The author goes on to give various methods of treatment.

Rheumatismus Neonatorum.—R. Abrahams " has an article on this subject, in which he states that acute articular rheumatism in early infancy is regarded as an exceedingly rare occurrence. If we accept the traditional causation of rheumatism—viz., exposure to cold and hereditary tendency—

there certainly can be no reason why a good many of our newly-born should escape it, for the diathesis is admittedly present, and the infant is frequently subjected to exposure to a cruel extent by the daily washing, soaping, and oiling. When a child cries and draws up its limbs it is supposed to be suffering from colic, the possibility not being recognized that the pain may be seated in an ankle or knee. Another and more potent reason for the non-recognition of rheumatismus neonatorum is the following one: Rheumatism in infancy and childhood does not exhibit those marked and characteristic joint affections we are wont to see in adult life. It is rather difficult of recognition at times, as the articular affection may only be referred to as "growing pains," although such trivial attacks are often associated with endocarditis, leading to permanent mischief of the heart. The examination of the heart of a restless, crying infant may reveal the cause of the little one's anguish. In early life it seems that the heart, instead of the joints, is the target of the disease, and a fatal endocarditis may occur with a total absence of articular affection. Endocarditis in an infant or child is almost positive proof of either past or present existence of rheumatism. The author believes in the theory that rheumatism is an infectious disease, and he reports three undoubted cases of rheumatismus neonatorum which to all appearances originated *in utero*.

Scarlet Fever.—R. A. Martin "presents the reports of some anomalous cases of this disease.

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ORIGINAL COMMUNICATIONS.

SOME CAUSES OF INSANITY IN WOMEN.¹

BY

GEORGE H. ROHÉ, M.D.,

Fellow of the American Association of Obstetricians and Gynecologists,
Sykesville, Md.

THE general causes of insanity are the same in women as in men. Sex, irrespective of other modifying conditions, has probably little influence upon the causation of insanity or upon the form of the mental disturbance. But there are differences in the life history of men and women which exercise a decided influence upon the causation of mental disturbances in the two sexes. Thus, general paresis and the insanities following over-indulgence in alcohol are almost limited to men, although observed in women exposed to the causes producing these diseases in the other sex. Hysterical insanity is rare in men, frequent in women; neurasthenic mental disturbances and the insanities following the abuse of opium and other drugs are found in nearly equal proportion in both sexes, while it is self-evident that menstrual, puerperal, lactational, and climacteric insanities are found only in women.

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It will be seen, therefore, that, in those forms of insanity in which the causes can act on both sexes alike, the relative frequency of the mental disturbances in the two sexes is determined by the intensity or extent of exposure to the exciting causes. On the other hand, there are certain forms of insanity which are found only in women, because dependent upon causes inherent in the sexual life of women.

Women are especially subject to mental disturbances dependent upon their sexual nature at three different epochs of life : the period of puberty when the menstrual function is established, the childbearing period, and the menopause. The insanities occurring at these periods, and coincident with the functions and activities peculiar to them, have an intimate etiological relation with these functions and activities.

At the period of puberty, when the boy and girl are passing through the phases of sexual transformation, mental disturbances in both sexes are not infrequent. It has been noticed, however, that while in the pubescent insanity in boys the form of mental disorder is generally depressive, in girls it is more likely to be maniacal and paroxysmal. Shouting, laughing, indecent and erotic manifestations, and convulsive seizures are frequent. The so-called "hysterical" element is so frequent in the pubescent insanity of females that it almost stamps it with its characteristics. The periods of greatest excitement usually correspond with the menstrual molimina. Menstruation is frequently absent, or irregular and painful ; and it has often been found that as soon as the flow becomes regular, free, and painless, whether as a consequence of treatment or otherwise, the mental disturbances disappear. In some cases the girl is insane only during the menstrual period, speech and conduct being perfectly normal during the interval.

I believe that in the majority of such cases there are pathological conditions of the pelvic organs which, if corrected, will result in rapid and permanent improvement of the psychical condition. The abnormality may be in the uterus, tubes, or ovaries, which should in all cases be subjected to a thorough physical examination. Not a few cases have been recorded where no abnormality of these organs could be detected, and yet in which the artificial establishment of the menopause, by removal of the appendages, has been followed by complete mental restoration.

A large proportion of the cases which we call hysteria and hystero-epilepsy, after a time become insane and end their exist-

ence in insane hospitals. If such cases were more carefully studied by the physician it would be found that some organic affection preceded and probably caused the neurotic manifestations. To the family physician hysteria is too often a disorder of the imagination, and in this opinion he is generally supported by the neurologist, who looks upon hysteria as a pure psychosis. Sometimes the latter will allow to traumatisms or exhausting diseases a causative relation to hysteria, but it is generally considered so improbable that the reproductive organs can have anything to do with the hysteria that in the physical examination these organs are absolutely ignored.

In spite of the prevalent belief that hysteria is primarily psychical, I am convinced by observation that hysteria has in the large majority of cases a physical cause. This is not necessarily a disease of the uterus or ovaries, because men sometimes have hysteria. Traumatisms or acute or chronic disease anywhere in the body may cause hysteria. Many people inherit a nervous organization incapable of resisting stresses of any kind. These individuals become hysterical on slight provocation, but in many cases careful observation and inquiry can trace the precedent physical shock or stress. That women suffer more frequently and more acutely from hysteria is probably explicable by their naturally more excitable and less resistive nervous organization. Babinski has written an interesting paper in which he reports a series of cases in whom the hysteria was associated with organic diseases. Among these were organic spastic hemiplegia, diffuse meningo-encephalitis, traumatic facial paralysis, peripheral neuritis, purulent cystitis, cervical endometritis, organic coxalgia, and periarthrititis of the shoulder joint. I can add from my own observation one case of spinal caries, one of hematoma of the ovaries, one of extensive laceration of the cervix, and several of displaced and adherent uterus and ovaries. In some of these cases prompt surgical interference resulted in a cure of the hysteria. In others, in which this was refused or too long delayed, the hysterical condition persists. I am convinced that earlier attention to the physical condition in these cases would be followed by more favorable results.

During the childbearing period gestational, puerperal, and lactational insanity are frequent. About ten per cent of all cases of insanity in women are classed among these three forms of mental disturbance. The specific causes of gestational insanity are not well understood. In two cases that have come

under my observation there was laceration of the cervix. In one the repair of the laceration was followed by mental recovery. In the other, in which no operation was permitted, the mental disorder—depression with suicidal tendency—became intensified, and the patient is now, a year after delivery, probably permanently insane.

There is very little room for doubt that puerperal insanity is due to pathological conditions of the parturient canal favoring the absorption of septic materials. Hansen and Olshausen have furnished strong clinical evidence in support of this view, and modern writers upon insanity regard puerperal mania as an infection psychosis. I am of opinion that, while the primary cause is infection, the results of pelvic inflammation—adhesion and displacements of uterus, tubes, and ovaries—are responsible for the continuance of the mental disturbance. This leads to the inquiry whether septic absorption in other conditions than puerperal or non-puerperal inflammatory diseases of the pelvic organs in women may give rise to insanity. While this has not been absolutely demonstrated, I do not hesitate to express my conviction that an affirmative answer is the true one.

Fibroid tumors, endometritis, inflammatory conditions of the pelvic peritoneum with their complications and consequences, pathological conditions of the ovaries and tubes, lacerations of the cervix and tears of the perineum, are all, in my opinion, occasional causes of insanity in women, and the periods when these conditions are most frequently met are those when insanity in women most frequently occurs. Furthermore, experience has shown that the discovery of local physical disease and its treatment has been followed by improvement and recovery in cases regarded as otherwise hopelessly insane.

The insanity occurring during the lactational period is not always due to physical exhaustion. In this form of mental disturbance septic absorption or peripheral irritation likewise stand in an etiological relation. I have notes of cases of insanity of the lactational period coincident with, and probably due to, mammary abscess, lacerated cervix, and retroverted uterus with adhesion. Defective uterine involution is also to be reckoned among the etiological factors of lactational insanity.

Puerperal eclampsia is sometimes followed by temporary or permanent mental disturbance. Here the mental impairment is probably due to the toxemia, although in some cases permanent structural alteration in the brain may have been produced by the convulsions.

During the climacteric period mental disorder, ranging from mild depression to the most exaggerated delusional states, is frequent. The milder nervous phenomena usually pass away in a few months, but the graver forms often eventuate in permanent mental alienation. Many of these patients refer their symptoms to present or past sexual disorders; and while these complaints are generally regarded as delusions, and doubtless often are so, only a physical examination can determine whether local disease is present or not. I recall one case in which the patient's complaints of local symptoms were neglected for months until an examination, finally made, showed advanced cancer of the vagina. In another a mammary cancer was coincident with the development of the mental disorder; no improvement in the mental condition occurred until after extirpation of the affected breast. In the majority of cases of climacteric insanity, however, no physical disease can be detected. It is probable that the profound alterations of nutrition consequent upon the arrest of the menstrual discharge, and the cessation of the childbearing function, can be regarded as the prime factors in causation of the insanity of this period.

Insanity following operations upon the female pelvic organs may, I believe, often be classed with the cases of ordinary climacteric insanity. In those cases, however, where the outbreak is violent and comes on within a few days of the operation, we probably have to do with a septic delirium, which either passes off in a few days or leads to death from toxemia and exhaustion.

In this connection I want to call attention to the statement sometimes made of the great number of cases of insanity following gynecological operations. I do not believe the cases are so frequent as is claimed by some. A careful inquiry undertaken by me some years ago showed that comparatively few were admitted to insane hospitals, and of these about twenty-five per cent recovered. I have personally seen only two cases. One of these was very mild and recovered without going to a hospital, while the other developed the alcohol habit, after discharge from the hospital, and was some years later readmitted. This case was fairly typical of the depressive conditions so frequent in climacteric insanity.

I have had one case under observation which was at first believed to be due to removal of the ovaries; at least I had been led to believe by the friends of the patient that this operation had been done upon her before the mental disturbance came on.

The patient, a very cultivated woman, was admitted in a very excited condition, with delusions of persecution. She charged her most intimate friends and relatives with attempting to poison her and defrauding her of her fortune. After a short time she became quiet and rational, and I then examined her physically. To my surprise she had no scar upon the abdomen, and the uterus was normal in size and position. In reply to my questions she said she had been operated upon by a distinguished New York gynecologist, but to the best of her knowledge her ovaries had not been removed. I then wrote to the operator she mentioned, who answered that the only operation he had performed was curettement of the uterus, and that the patient had left his charge perfectly recovered, having shown no sign of mental aberration while under his care. Further observation of the case showed that she was addicted to the use of morphine, a practice she had acquired some years before she came under my observation. In this case the statement of the friends of the patient had been so positive that insanity followed removal of the ovaries that, if I had not been careful to make a personal examination, it would have gone into my records as a case of insanity following oöphorectomy.

THE RELATION OF VISCERAL DISORDERS TO THE DELUSIONS OF THE INSANE.¹

BY

W. P. MANTON, M.D.,

Gynecologist to Harper Hospital and the Eastern Michigan Asylum for the Insane;
Consulting Gynecologist to the Northern Michigan Asylum and St. Joseph's
Retreat; Professor of Clinical Gynecology, and Adjunct-Professor
of Obstetrics, Detroit College of Medicine,
Detroit, Mich.

(With three illustrations.)

THAT the delusions of the insane are often an expression of somatic peripheral irritation has long been recognized, but observation leads me to believe that the importance of these mental manifestations as indices of bodily suffering is frequently ignored as a mere phase of the brain disorder, especially in the instance of supposed fancied visceral disturbances. It is quite

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

true that, in a large percentage of those cases in which the absence or disease of some abdominal organ is the constant plaint of the mental invalid, the parts referred to are really in a fairly healthy condition, a faulty enervation being responsible for the distorted psychic impression; but while many cases of delusion may thus be accounted for, there still remain a considerable number in which actual disease is present and renders the patient additionally miserable by keeping up a constant irritation of the cerebral cortex.

As no one, however, is sufficiently skilful to be always able to decide from the invalid's expressions whether there is a physical basis for the reiterated lamentations or not, it becomes the duty of the physician to determine the actual conditions present by a careful physical examination before putting the matter aside as the figment of a disordered mind.

For convenience of consideration the so-called visceral delusions may be placed in four classes:

1. Delusions arising *de novo* from the diseased activity of the brain.
2. Delusions regarding external or visible abnormal bodily conditions.
3. Delusions arising from easily determined visceral disorders; and
4. Delusions dependent upon obscure abdominal and pelvic states. The last three classes will be briefly considered.

We can readily understand how visible bodily defects may be misinterpreted and the mind of the patient become confused as to the real nature of the condition, which is always more or less open to inspection. The sight of a desmoid tumor slowly developing in the abdominal walls led one of my patients to believe herself pregnant, but the removal of the growth soon dispelled the illusion. In another instance a uterine fibroid called out the same impression and the patient requested the physician to listen to "hear the young ones." The appearance of a complete procidentia uteri in another case gave rise to the idea that the protruding mass was the male organ, and under such conditions the patient could no longer retain her feminine appellation and immediately rechristened herself "John." Such examples might be multiplied, for they are of frequent observation by all who have to do with the insane. In such instances, as I have already remarked, the connection between the delusion and the somatic disorder is obvious, being, as it were, on the surface.

In the third class, however, the relation of the condition to the expressed idea is not always so apparent. Recently I had occasion to examine two sisters at the Eastern Michigan Asylum, each of whom, strangely enough, was possessed of the delusion that she was pregnant. Both women were found to be suffering from an endometritis.

Here the delusion evidently arose from the misinterpretation of the sense impressions initiated by the inflamed uterine mucosa. Such delusions are of so common occurrence as to be usually considered of little moment and are therefore completely ignored as signs of actual physical suffering. Contrary to the general opinion, I believe that in very many instances a careful physical examination in such cases will reveal the presence of some local disorder to account for the mental manifestations.

Regarding the fourth class of delusions much might be said. They arise from obscure abdominal and pelvic disorders which may or may not be discoverable during the patient's lifetime. The difficulties presented by such cases, therefore, should elicit our most careful consideration and study, and in occasional instances we are likely to be rewarded by the discovery of the abnormal conditions which determine the delusions. Some years ago I operated on a middle-aged woman at the Eastern Michigan Asylum who had passed for many years as a "sexual hypochondriac." From nearly the beginning of her insanity the local organs had figured largely in all of her delusions. At the time of the operation the abdominal walls were so distended by ascitic fluid that examination to determine the cause of the condition was negative in result. A large multilocular ovarian cyst surrounded by much free fluid was discovered. The pain and irritation produced by the beginning of this growth were undoubtedly responsible for the form of this patient's delusions, which persisted for so many years.

In 1878 a male patient was admitted to the Eastern Michigan Asylum suffering from dementia monomania. He had accused his home physician of introducing a mouse into his stomach, and was accustomed to strike himself violently on the abdomen with the right hand. According to the report, "the blows were delivered with terrific force." A fistula in ano developed later and the patient's urine contained albumin and hyaline casts. He died in 1884. At the autopsy the peritoneum was found to be thickened and showed evidences of old inflammation. The intestines were firmly matted together and, in places, adherent to the abdominal wall. Evidences of recent perito-

nititis were present, and the peritoneum and intestines were covered with small tubercular masses of a grayish-white color. The great omentum had dwindled to a tongue-like mass one and a half inches wide at the middle and one-fourth of an inch thick, was as firm as muscular tissue, and extended diagonally across the abdomen from the greater curvature of the stomach to a spot opposite the anterior superior spine of the ilium, where it was *firmly united to the peritoneum of the abdominal wall*.

A male patient, aged 38, with symptoms of chronic dementia,



FIG. 1.

complained from time to time of visceral hallucinations. One day, while at work in the kitchen paring potatoes, he walked to the water closet unattended, carrying the paring knife with him. A few minutes later he was discovered in the act of disembowelling himself, using the knife with both hands. The incision thus made was found to be about six inches in length and extended transversely across the abdomen about two inches below the ensiform cartilage. Further examination showed that *a portion of the omentum was firmly adherent to the anterior abdominal wall*. An opening had been made into the stomach large enough to admit two fingers, and

there was a diagonal laceration of the stomach wall four inches in length, extending through both the peritoneal and muscular coats (Figs. 1 and 2). The reason assigned by the patient for this self-inflicted celiotomy was "to let the fellow out," and he thought that he had "succeeded well."¹

In 1895 an old woman suffering from chronic dementia, and whose constant plaint was the absence of bowels, the inability to digest food, and obstipation, broke the night vessel in her room and with a sharp fragment of the pottery made an incision through the abdominal wall near the median line. *The in-*



FIG. 2.

testines were found to be inflamed and matted together by inflammatory product (Fig. 3).

Other similar cases might be cited, but the four mentioned will suffice to illustrate the point which I wish to make.

In each of these patients the delusions referred chiefly to the abdomen, and in each an abnormal condition of some of the viscera was found, but a condition in which the early intervention of surgery would have afforded great, if not permanent, relief to the patient's sufferings.

With such facts, not theories, before us, it seems to me that celiotomy, in properly selected cases of the insane in whom vis-

¹ Biennial Reports, Eastern Michigan Asylum.

ceral delusions are a pronounced and constant feature of the mental disorder, is not only justifiable but urgently demanded in the interests of the patient. For a number of years I have urged before this and other societies the importance of the amelioration of somatic disorders in the insane amenable to surgical treatment. At the same time I have always maintained, and never more strongly than to-day, a progressive conservatism toward operative interference in the instance of these helpless people committed to our care.

Therefore, in advocating so radical treatment in the class of cases to which I have just alluded, I desire not to be misunder-



FIG. 3.

stood. In my opinion, while such operations are sometimes clearly indicated, no such procedure should ever be undertaken by the surgeon without the concurrence of a competent alienist, and even then the abdomen in these cases should never be opened until the patient has been under observation for a length of time and subjected to most thorough, careful, and painstaking physical examination. The axiom, "If in doubt, operate," in this instance, if in no other, is a most pernicious rule to follow, and it is incumbent upon us as members of an honorable profession to see to it that surgery is not degraded by unwarrantable, venturesome, and foolhardy experiment.

32 ADAMS AVENUE, WEST.

. UNNECESSARY AND UNNATURAL FIXATION OF THE UTERUS,
AND ITS RESULTS.¹

BY

JAMES F. W. ROSS, M.D.,
Toronto, Canada.

WOMAN's uterus is an organ of peculiar mechanical construction. There is no other organ in the human body similarly constructed, and the same organ in other animals resembles, in a marked degree, the human uterus. It is constructed as it is to perform a peculiar function. This womb that has been occupied by all mankind, gynecologists included, is fixed below and unfixed above. The lax and partial support of two guy ropes, the round ligaments, can scarcely be called fixation. The fundus moves forward at the command of a distended rectum, and backward at the dictum of a distended bladder, and to one side or the other in order to oblige a small intrapelvic growth that may be growing beside the uterus. If a woman be placed on her head the fundus will swing back and forward in a line like the reverse of that described by the pendulum of a clock. There is no doubt a very good reason why the Creator created woman with an unfixed uterus, and he who attempts to fix the uterus attempts to improve the handiwork of the Creator. He infringes one of the mechanical laws of nature.

The uterus is only a childbearing organ. By childbearing we mean conception, subsequent growth, and extrusion of the new being into the world. The latter, the extrusion of the fetus, is provided for in a masterly manner; the plan is as perfect as man or God can make it, and if this plan is interfered with by the meddlesome gynecologist it becomes at once imperfect. The little back bendings and front bendings of this mobile organ would scarcely be noticed if woman was unendowed with a nervous system.

From time to time we have our professional house-cleanings. New thoughts creep into the professional mind and for a time engage its attention. We have been led to believe that nearly all diseases of women may be cured by cutting the cervix; by

¹ Read at the annual meeting of the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

stitching the cervix; by hot-water douching for so-called pelvic cellulitis; by excessive removal of normal ovaries; and finally by removal of the poor organ that has been left behind, as the symptoms have not given way to other treatment adopted. And now, latterly, we have been asked, on all occasions when opportunity affords, to fix the backward and reclining uterus. One set of operators are prepared to form a new ligament that the Creator forgot to insert; another set of operators, while they believe that certain symptoms are produced by an exaggerated retroflexion of the uterus, ask us to relieve this condition by the production of an exaggerated antelexion. Our housecleaning is not yet completed. We have to improve one chapter in our works on gynecology—the chapter that represents a most indefinite, mythical, and unscientific remnant of the past. It is the chapter on forward and backward displacements of the uterus. I have always felt that the more frequently I perused this chapter the less information I obtained. To me it was always a slough of despond. It is possible to make the symptoms of a great many diseases agree with the supposed symptoms of these terrible displacements. It is fortunate for man, who has so much liver, that he has no uterus.

It is not my intention to become either a uterine milliner or a uterine carpenter, but I am certainly a gynecological heretic. The milliner suspends from above, the carpenter props from below. I do not like the work; to me it has always been unsatisfactory. If we were all better physicians much of our gynecological thunder would be lost. There is altogether too much indefinite statement of facts. The ideas of a nervous woman are not to be relied on when searching for scientific facts on which to base our knowledge.

We must ask ourselves this question: “Do these displacements of themselves give rise to the terrible array of symptoms with which they are credited?” I believe not. Let us take for a moment an almost daily experience. A young growing woman is working hard at school. She is run down in health and her muscular system is impaired for want of muscular exercise. The sexual organs are developing; bad habits may be contracted, as in boys, that put a great strain on the nervous system. She is examined by a doctor who, having graduated from our modern schools, has become imbued with the idea that antelexion, anteversion, retroflexion, retroversion, are necessarily accompanied by a long list of symptoms. He at once discovers what he considers an abnormal condition and institutes treat-

ment that is entirely unnecessary. The patient then, with her mind fixed on the one idea that she has womb disease and is not as she ought to be, is required to make frequent visits to his office to submit to the placing of glycerin tampons, lamb's-wool tampons, pessaries, to undergo the abuse of the curette, and to pay a large account. She finds that each visit to the office makes her worse, and, after having settled the account, goes elsewhere. She then, fortunately for herself, meets with one of the old-fashioned physicians, who knows more of physic than of gynecology, and he endeavors to assure her that she is a perfectly healthy woman as far as her sexual organs are concerned. He looks further than the uterus, investigates all the surrounding circumstances thoroughly, he unravels the case, leaves the uterus alone, and cures the patient.

Some, however, are not so easily persuaded that there is not some latent disease lying hidden in the depths of the pelvis. They have become firmly convinced that they are sexually deformed, and positively refuse to treat with any one who does not discover some disease of the intrapelvic organs. In our large cities the unruptured hymen is unfortunately becoming rare, owing to the fact that supposed womb disease has become alarmingly prevalent among young women.

A short time ago a young gentleman consulted me regarding his marriage with a young lady who was then occupying a sick-bed in a Michigan sanitarium. He said that he was tired waiting, and that he did not believe there was much the matter with his affianced, but that she was being humbugged. I advised him to send her word that she must marry him now or never. She had been in bed for nearly twelve months. Within the first month after her marriage he brought his wife to consult me. She was complaining of sickness of the stomach. I concluded that she was pregnant. Within nine months the first child was born. Conception thus occurred in the presence of a supposed flexion, endometritis, and ovaritis for which she had been undergoing treatment.

I have at present under my care a young woman suffering from "that tired feeling." She was examined by a doctor, who discovered that her disease lay in a bent uterus. A pessary was placed, and, owing to its effect on the imagination, answered for a time, but a new sensation developed in her brain. She was now sent to a consultant, who found more than the flexion: he found disease in one ovary, and to cure the patient took out the one ovary and performed the operation of

hysterorrhaphy. This answered nicely for a time, but a new sensation developed in the patient's mind and she concluded that the other ovary must be at fault. The consultant was persuaded to agree with her, and it was also removed. The consultant died and the patient drifted into my hands. Having heard that the want of success of the two operations was due to the fact that the uterus was left behind and that many most eminent men were advising its removal, she decided that to recover her health her uterus must be removed.

On examination I found a tiny organ, atrophied, as they so frequently are subsequent to the menopause. It was now no larger than my thumb. After gaining her confidence and convincing her that her pains were the result of a disordered nervous system, I induced her to undergo a strict routine by way of treatment—to rise at a certain hour, to walk for a certain length of time, to rest for a certain length of time, to submit to massage, to eat at certain hours, to read certain works and only for a certain length of time each day, to avoid seeing friends, and to sleep eight hours every night. She is now able to walk several miles and is like a different being, although a ruined woman as she is unmarried and has lost her ovaries. She had thoughts of marriage, but gave them up, thinking that she could be nothing but an invalid wife, when she found herself in the possession of so many pelvic diseases. In this case I suspect onanism.

In many of these cases the true facts regarding secret habits are concealed, and while concealing these facts they may persuade the surgeon to perform operations that are unnecessary and useless. I advise all such cases not to postpone marriage until after health is regained, because, unless this is done, the supposed infirmity will continue and marriage will never be consummated.

I have given a great deal of careful thought to the treatment of cases of flexion and version in young women. Ante flexion is said to be the normal position of the uterus; I find a large number of cases in which the uterus is retroflexed. On some occasions the uterus will be found apparently in a condition of retroversion, with a bladder full of urine, and after the urine is drawn off the uterus is found to be in its normal position. If the examination is made in a hurry the conclusion is come to that the patient has a retroversion. The same is true in regard to the absence or presence of fecal matter in the rectum, and outside of these two factors—namely, a full bladder and a full

rectum:—there is some other factor that produces a variation in the position of the uterus. I have been surprised to find on one occasion the uterus occupying a position much further toward the sacrum than it did on the occasion of my former examination. The position of the uterus seems to vary with increased fulness of the intestines. We have all noticed this change in position when the drainage tube is in the cul-de-sac of Douglas and the abdomen becomes partially distended subsequent to a laparotomy. If lateral displacements give rise to no symptoms when the uterus is pressed far toward one side or the other by an intrapelvic growth, it seems peculiar that backward flexion should be endowed with such ill consequences.

In young women the treatment of the flexions will not cure the patients, except in exceptional cases. I have placed a tiny pessary in a woman with normal sexual organs, complaining of all sorts of ailments, and have had her return at stated intervals to have the pessary removed and replaced, and have gained her undying gratitude for what she considered my skillful treatment of her case. I have seen others who complained of terrible bearing-down pains when a small pessary, that could have no effect on the rigidity of the pelvic floor, was removed, and have seen them completely relieved from these pains by the replacement of the pessary. Pessaries may therefore have a very great effect on the mind. Patients and physicians may both be somewhat touched with "pessary mania."

After the operation for oöphorectomy became fashionable one doctor in a small town in the South managed to extirpate fifty or sixty pairs of normal ovaries in one year. Alexander's operation then became fashionable, and a large number of operators found a large number of cases in which the operation was deemed advisable. Ventrofixation and vaginal fixation then became fashionable, and one student who, three years ago, left a Toronto college and settled in an American city in the West, has already succeeded in finding ninety-four poor women who have been patiently awaiting his advent and who have now their uteri fixed up in front where he thinks they ought to be. Operators have managed to perform some eight or nine hundred of these operations on this continent alone within five years. I venture to predict that the operation will be almost unheard of at the termination of another decade, owing to the fact that it is, as Mann of Buffalo has said, physiologically and anatomically unsound.

In my hands the operation of nephrorrhaphy for the fixation

of movable kidney has not been satisfactory. This has also been the case with other operators. Drs. Pouillet and Vuillet found that the kidney would not remain fixed without the introduction of a buried suture, and, as buried sutures are suited for application neither to the kidney nor uterus (with one exception), they devised a method of introducing a portion of the living tendon of the long dorsal muscle of the back through the kidney to grow in its new position and act as a ligament. Unless some such structure is used adhesions will eventually give way until the organ that is being supported rests and ceases to drag on the adhesions.

That there are no recurrences of retroflexion after the performance of hysterorrhaphy I do not believe. I do not believe that there are as few recurrences as are stated by many of the operators. It is difficult for any operator to follow up even a century of women. There is not an operator present who can follow up and obtain particulars regarding the condition of one hundred women on whom he has performed one hundred consecutive abdominal sections. Many relapses have been reported to me personally by friends who have suspended the uterus by one or other of the various methods, and in many of those in which a relapse could not be said to have taken place the symptoms were not relieved. To gain a *clientèle* from which to select a large number for the performance of suspension of the uterus, it must be necessary to include a large number of the vast army of grumblers and clinic trotters who are never satisfied and never cured, whose disease is more imaginary than real.

To perform a series of operations without a death should be an easy matter. A thousand abdomens can be opened with a thousand recoveries, if nothing more serious is done than the stitching of a clean uterus or its cornu to the parietal peritoneum and closing the wound. There is no filth to be encountered in the shape of pus, and there should be scarcely any traumatism. The operation is one that any novice in abdominal surgery should be able to perform. The question is not one of mortality or ease of performance, but the question is, Is the operation necessary or useful, and does it break no law of Nature?

Is the operation without the buried suture capable of producing lasting fixation of the uterus? From my experience with nephrorrhaphy and supravaginal amputation of the uterus by the *serre-neud* for the removal of fibroid tumors, I contend

that these adhesions will give way until the uterus rests again against the sacrum or floor of the pelvis.

Within a month a case has been reported and a diagram shown of a uterus fixed by ventrofixation eighteen months before. It was found suspended by a ligament two and a half inches long. The position in which it was fixed forward was not the normal position, so therefore the uterus, in its attempt to resume the normal position, fell away from the anterior abdominal wall two and a half inches until it rested. If necessary, for the purpose of securing a resting place, it would no doubt have gone six or ten inches or a foot, and the so-called ligament would have been six or ten inches or a foot long.

In the light of modern experience of the difficulties met with in cases in which the buried suture has been placed and subsequent pregnancy has occurred, it becomes almost criminal to use a buried suture without removing a portion of each tube to prevent subsequent pregnancy. Fixation by buried suture endangers the woman from an early miscarriage, and endangers her later, should the pregnancy proceed, by producing a thickening of the uterine wall that impedes the natural progress of labor. Adhesions produced by mere freshening of the surfaces or temporary introduction of removable sutures can, like all other adhesions, easily be overcome by the process of stretching incident to the enlargement of the pregnant uterus and movement of the abdominal muscles. Those who have operated two and three times on the same patient, and who have kept accurate records of their cases, must admit that adhesions present at the first operation have almost entirely disappeared at a second.

In the discussion to follow I am satisfied evidence will be forthcoming of the uselessness of the operation of fixation of the uterus by any of the methods at present in vogue, except by means of the buried suture or vaginal fixation. I am satisfied that vaginal fixation of Dührssen is anatomically incorrect, carrying the uterus from one extreme to the other; that vaginal fixation is a great menace to a woman who is about to be confined. Fixation by the buried suture should be accompanied by the removal of the tubes, and, as a consequence, many a woman who would otherwise bear numerous children becomes sterile as a consequence of our effort to relieve a few minor aches and pains.

Fowler suggests an operation that imitates the operation of VUILLET. He passes the urachus, a living structure, through the uterus. The urachus is thus intended to form a new liga-

ment forgotten by the Creator, something undone that should have been done. Fowler adopted four methods of procedure, so that no one can say that his failures were due to want of technique or because he left undone some trivial variation of the operation that he should have done.

1. He sutured the fundus to the anterior abdominal wall by means of some sutures with which the abdominal wound was closed. This method is said by some to be very faulty.

2. He fixed by means of silk sutures the fundus to the parietal peritoneum in front and closed the wound with other sutures. This is said to be the correct procedure.

3. He sutured the anterior margin of the broad ligament, together with the fundus uteri, to the peritoneum of the anterior abdominal wall.

4. He removed one or both ovaries and Fallopian tubes and sutured the stumps anteriorly, and added this to the preceding procedure.

He states¹: "At different periods of time, varying with the extent of the adhesions, these cases have shown more or less tendency to relapse, and some, particularly those in the first group, have been complete failures almost from the very commencement." Having tried these different methods, he then, as he says himself, cast about for some structure to afford a more stable support for the organ when restored to its normal position. For this purpose he selected the urachus. Any one who has studied the histological structure of the urachus can scarcely expect to find it support much strain without relaxation. It is not a tendon. I admire Fowler's honesty as expressed in his report.

Mundé, in a paper read before the American Gynecological Society, touched what might be considered a keynote by asking and answering a question. He said that we might ask why such acute observers as Thomas and others had been misled to attribute the relief obtained in ante flexion to the use of pessaries. He might also have asked why eminent authorities in the present day had been misled to attribute the relief obtained in retro flexion to the use of pessaries and variations in position of the uterus. The answer to his question was that, in the light of our present knowledge, the symptoms were due to concomitant conditions, such as inflammations, enlargement of the uterus, etc., and that relief of these conditions was obtained by certain of the measures adopted.

¹ New York Medical Journal, October 5th, 1895, p. 418.

All through the literature of the subject cases are recorded condemning the operation of Alexander of shortening the round ligaments. Many honest workers have stated definitely that they were disappointed with the results. Were they not endeavoring to cure a disease that did not exist? Were they not overlooking a condition beyond the mere flexion of the uterus?

And now comes the newer operation of ventrofixation. Many are dissatisfied with the results obtained. Are they not also overlooking the true condition present? To read the discussions on the subject a student must be bewildered. One author, an eminent authority, states distinctly that it is not the flexion of the uterus that produces the trouble, but the prolapsus that stretches the vessels, and that, as a consequence, they become enlarged and engorged; that it is the amount of congestion or engorgement that causes the trouble, and not the backward displacement. Other authorities, equally eminent, consider that the flexion has all to do with the production of the symptoms; that the blood vessels are thus bent, and the organ becomes, as a consequence, engorged and tender, and that by lifting the fundus forward all these conditions are altered. To look through the literature of the subject, however, one finds one set of operators who have nothing but praise for Alexander's operation, another set of operators who have nothing but condemnation. This is so in connection with ventrofixation. To ascertain the truth appears to be a difficult task.

Churchill, in his "Diseases of Women," says "that the ancients were not ignorant of the occurrence of flexions of the uterus, though their views were very indefinite; their successors, however, lost sight of these conditions altogether until the labors of William Hunter and others threw a new and more accurate light upon this, to them, obscure accident." How much light they have thrown on the subject remains to be seen. In the history of medicine eras have apparently arisen in which flexions of the uterus were credited with the production of an immense amount of evil and in which they were almost entirely ignored.

For these maladies Simpson introduced the intrauterine stem pessary. The treatment was soon discarded. Unfavorable results were obtained, such as uterine pain, constant leucorrhea, menorrhagia, metrorrhagia, together with inflammation of the adnexa. As with all such procedures, however, so in this case, the institutor met with marvellous results. He saw

none of the evils that befell other practitioners. After several years he republished an account of his experience, and in this he makes no mention of the failure of the mode of treatment, of the risks or of how they may best be avoided. At the present day the intrauterine stem pessary is something that is scarcely ever used. I have seen bad results follow its use, and will never as long as I live apply one again.

West says, on page 175 of his "Diseases of Females," "that in the hands of those of that day even the cure of the displacement was not followed by the cessation of the symptoms." Women must have been in those days much as they are at present.

After Simpson and Valleix had cured their patients, Dubois examined many of them and found the uterus back in its old position. Scanzoni admitted that after he had discarded all mechanical supports for the uterus and contented himself with cold (in contradistinction to the present hot) vaginal injections, together with the antiphlogistic treatment of any chronic uterine inflammation and the application of caustic to the os uteri, and with the endeavor to remove the chlorotic symptoms which are seldom absent, he was much better satisfied with the results.

To my mind it is not so much the displacement itself, but the state of the uterus associated with the displacement, that requires treatment. If these slight mechanical displacements of the uterus cause such a long row of symptoms, fibroid tumors growing from the uterine wall should give rise to a similar set of symptoms. We know, however, that fibroid tumors grow to a considerable size without giving rise to a single symptom that indicates their presence.

Retroflexion of the uterus is by no means always accompanied by constipation, and, again, many women with anteфлекed uterus do suffer with constipation. Many women bear large families with the uterus retroflexed, and suffer no particular inconvenience from the retroflexion.

For the purpose of diagnosis it is very necessary that we should be able to distinguish uterine displacements. We should also be willing to admit that we know little or nothing regarding the amount of local suffering or functional disturbance that they produce. In many cases the presence of such displacements is a matter of entire indifference to the possessor, if not to the professor.

From my experience I cannot agree with some of the other writers. Madame Boivin states that flexions of the uterus are

rare; she states that flexions in young unmarried women are rare. This is certainly not so; they are frequently met with.

In one breath we are advised to break up adhesions of the uterus to the peritoneum, to give relief to symptoms supposed to be caused by them, and in the next breath we are advised to freshen the anterior surface of the uterus, produce adhesions, and thus relieve suffering.

It seems to me that we know about as much about the symptoms caused by flexions of the uterus as Gooch knew about the so-called irritable uterus. To read the descriptions of Gooch's irritable uterus an abdominal surgeon of the present day must conclude that the cases were ones of salpingitis and pelvic peritonitis and that the disease was not situated in the uterus at all. There are many good practitioners and close observers who are unable to satisfy themselves that flexions of the uterus *per se* require treatment. In the face of the storm wave carrying with it Alexander's operation, vaginal and ventrofixation, they are timid about launching their frail barks in the sea of controversy. I have launched mine and expect to be engulfed.

(The one exception referred to above is complete descensus uteri [after perineorrhaphy has failed to support]; in such a case fixation of the fundus uteri by buried suture is indicated, with excision of a portion of each tube to prevent pregnancy.)

481 SHERBOURNE STREET.

HYSTERECTOMY BY COMBINED ABDOMINAL AND VAGINAL OPERATION.¹

BY

CHARLES B. PENROSE, M.D.,
Philadelphia, Pa.

FOR the past year I have been performing complete hysterectomy for cancer by a combined method of operation through the abdomen and vagina. In the combined operation, as usually performed, the vaginal part of the operation is done first, the abdominal part last.

In the method of operating which I have followed I have begun through the abdomen and have finished the operation by

¹ Read before the Section on Gynecology, College of Physicians of Philadelphia, October 15th, 1896.

way of the vagina. This method seems to me to present several distinct advantages. The following is the technique: The abdomen is first opened. The ovarian arteries and the round ligaments are secured by ligatures. The broad ligament is divided down to the level of the internal os, and the bladder is dissected from the anterior face of the uterus and the upper portion of the vagina. A small gauze pad is then inserted in the space between the bladder and the upper portion of the anterior vaginal wall. A similar pad is inserted at the bottom of Douglas' pouch, immediately behind the upper portion of the posterior vaginal wall. The abdominal incision is then closed. The woman is placed in the dorso-sacral position; the cervix is exposed through the Sims speculum; the posterior vaginal fornix and the anterior vaginal fornix are opened by incisions made directly over the gauze pads. The incision may be made boldly and quickly, because the pads prevent intestinal injury. The vaginal mucous membrane is then divided on the sides of the cervix, and the bases of the broad ligaments are secured with large forceps. The uterus is then cut away and is removed through the vagina. The gauze pads are withdrawn and the vagina is packed with gauze.

The advantages which this method of combined operation possesses over the operation which is usually performed of entering the vagina first and finishing through the abdomen, are the following: The dirty part of the operation is done last. The septic cervix is withdrawn through the vagina and not through the peritoneal cavity.

The vaginal part of the operation is facilitated by the preliminary separation of adhesions in the upper part of the pelvis; by the division of the upper portions of the broad ligaments; and by the dissection of the bladder from the uterus, this operation being easier from above than by way of the vagina.

The operation seems to me also to possess some points of advantage over the operation of complete hysterectomy from above as it is usually performed to-day.

In complete hysterectomy the vaginal vault is either closed by suture after the uterus has been removed, or, more usually, the safer method is followed of leaving the vaginal vault open and draining by gauze through the vagina. If the latter method is employed there is usually infection of the ligatures which secure the uterine arteries, with resulting persisting sinuses. This difficulty is, of course, avoided by the use of catgut ligatures.

Again, when the vaginal vault is opened from above the operator cannot determine with certainty that the incision is made outside of all infiltrated tissue, and in case of cancer of the cervix it is frequently necessary to excise a portion of the vagina after the uterus has been cut away. This is contrary to the sound surgical advice to remove cancerous tissue in one mass when possible.

1331 SPRUCE STREET.

ABDOMINAL SECTION FOR TUBERCULAR DISEASE.¹

BY

THOMAS E. McARDLE, A.M., M.D.,
Washington, D. C.

THERE is at present no subject of greater interest to the human race than the study of tubercular disease, more particularly of its treatment. The enormous mortality from this destructive enemy of mankind renders valuable any suggestion of treatment which holds out a hope of success. It is not the intention here to offer any new method, but rather to formulate, in as terse and concise a manner as possible, what has already been done by surgical means for the relief of women suffering from tuberculosis of the generative organs.

Whilst there is only one specimen of tubercular disease of the uterus in the Army Medical Museum at Washington, yet tubercular disease of the female generative organs is far from being a rare disease, as evidenced by the reported cases scattered over many years of medical literature. Almost as early as the recognition of tubercle in the lung tissue have we histories of autopsies revealing the presence of tubercular disease in the tubes, ovaries, or uterus, either in one or in more of these organs; as a primary disease of the tube, the ovary, or the uterus, or as a secondary disease consequent to or coincident with tubercular systemic infection. It is true that until the verification methods of modern pathology and the discovery of the bacillus by Koch there is always an element of doubt as to whether many of the cases reported were really tubercular or not; yet with even this element of doubt it is more than probable that the majority of cases would be proven such to-day,

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

for the reporters were generally clinicians of ability and the men who made the autopsies were skilled in their profession. It is not my purpose to make reference to the vast quantity of literature, in almost every language, which was so kindly furnished me at the library of the Surgeon-General's Office. It was my intention to make such an exhaustive study of the subject as was afforded by the material at hand ; but so short was the time and so vast the matter at my command, it was deemed best to make reference to the admirable paper on "Tuberculosis of the Female Generative Organs," together with a most complete bibliography up to date of publication, by J. W. Williams, in the *Johns Hopkins Hospital Reports*, 1892. It may be of some little interest to add that, as far as could be learned, Franciscus Deleboe Sylvius, 1680, was the first writer who accurately described tubercles of the lungs ; Boyle, 1810, was the first who confidently announced that tuberculosis was not a local process limited only to the lungs ; and Addison, 1842, was the first to institute microscopical examinations for tubercle. But, of course, Koch's discovery was the greatest advance of all, and, with the astonishing success of modern surgery, it remains for us to snatch from the jaws of death women who would have been permitted to die from what appears to be so remediable a disease if only the correct diagnosis be made and the proper means of treatment be applied.

There is no doubt that tubercular disease of the female genitalia is more frequent than is generally supposed. Every portion of the genital tract may be affected, the order of frequency for the various portions being : tubes, body of the uterus, ovaries, vagina, cervix, and vulva. The tubes are affected in nearly all cases, the body of the uterus in about three-fourths of the cases, and the ovaries in about half of all cases. It must be borne in mind that such a condition of affairs may exist as a primary disease in one or another of these organs ; and this primary disease has for us the greatest possible interest. But we must remember that tubercular disease of the organs just mentioned may be secondary to a focus of infection in lungs, bladder, rectum, or elsewhere, thus casting another element into the questions of diagnosis and treatment. Most cases of tuberculosis of the tubes are secondary to tuberculosis elsewhere ; but, as far as the genital tract is concerned, the tubes are generally the primary seat of the disease. But the frequency of the primary focus of the disease being situated in the tubes is not properly appreciated, though something has

been done of late years to demonstrate that it is of far more frequent occurrence than was ever suspected.

Tuberculosis of the body of the uterus is not at all a rare affection and has been frequently discovered in autopsies upon phthisical subjects. It can be the only focus of disease in the body, but it is generally associated with disease of the tubes and is generally secondary to disease of that organ. It seems most probable—in fact, by some it is considered proven—that coitus can be a source of uterine affection with tubercular disease. Yet it has been asserted that frequently from such a cause the tube becomes the primary focus and later infects the body of the uterus. It is well to remember that at first only the endometrium is involved, and the disease does not extend to the muscular tissue until a more or less lengthy period of time has elapsed. Whilst tuberculosis of the ovary has been almost doubted by some and by others considered very rare, yet we undoubtedly have good authority for the assertion that, although it is not of such frequent occurrence as tuberculosis of the tubes and body of the uterus, yet it does occur frequently enough to be reckoned among the prominent localizations of tubercular disease. Notwithstanding the fact that tuberculosis of the ovary is usually consequent upon or coincident with other forms of genital tuberculosis, nevertheless a sufficient number of cases have been reported to lead us to believe that primary tuberculosis of the ovary does exist without the involvement of any other portion of the genital tract.

Senn has well said that the cases of primary tuberculosis of the vulva, vagina, and uterus will undoubtedly become more numerous in the literature of the near future when improved methods of examination will enable the surgeon to make a positive diagnosis between these affections and carcinoma and syphilitic lesions. We believe that time is now upon us. Enough German and French surgeons and pathologists have reported cases of primary tuberculosis of the vagina to place the existence of that lesion beyond the peradventure of a doubt. Although tuberculosis of the vagina occurs most frequently during the period of greatest sexual activity, yet it has been found in a girl of 7 and again in an old woman of 79. It is usually secondary to disease affecting the higher portions of the genital tract, the majority of the cases being produced on the posterior wall by secretion from a tubercular uterus.

Williams has advised that, in view of mistaking it for carcinoma, the ulcerated variety of tuberculosis of the cervix

deserves to be constantly borne in mind by operators; and undoubtedly tubercular ulcerations of the cervix have not infrequently been operated upon under the delusion that they were of carcinomatous origin. It is believed that further research will prove that, whilst tuberculosis of the cervix is not so common as tubercular disease of the body of the uterus, yet it occurs more often than is generally supposed. Cases are on record where the cervix was the sole location of tuberculosis in the genitals of phthisical women; and, again, on the cervix has been found the only trace of tubercular disease in the woman's whole body.

Of all the female genitalia the vulva is the least liable to tubercular infection. But as progress is made in the study of tuberculosis of the female genital organs greater effort will be made to differentiate more accurately the various diseases of the vulva, and where tubercle bacilli are found, or inoculation experiments yield positive results, the surgeon will have no doubt of the disease with which he has to deal. It is almost certain that more cases of vulvar tuberculosis will then be recorded and the good results obtained from surgical or medical means may prove valuable in the treatment of tuberculosis elsewhere.

The etiology of tuberculosis of the female genitalia is a subject for much future investigation. As has already been said, it is quite generally conceded that the primary form may be the product of coitus, the male having tubercular disease of one or more of his genitals. The fingers or hands of the physician or nurse may carry the tubercle bacilli into the genital tract; so, too, may unclean instruments and syringes be the source of infection. Filthy conditions of the bed linen or wearing apparel may give rise to the disease. It has even been claimed that the tubercular affection may be transmitted through the medium of the air to the female genitalia. At any rate, it may be asserted that the bacilli are introduced by some means, and, finding the conditions favorable, multiply with great rapidity and set up a focus capable of infecting neighboring organs.

Secondary tuberculosis may be caused in various ways. Blood infection is the most probable explanation of the occurrence in very many cases. Tubercular infection has been transferred from the peritoneum to the tubes, and again the peritoneum has been infected from the tubes. Moreover, the bacilli may gain access to the genitalia from other organs

which are the seat of tuberculosis, by the formation of fistulæ between the diseased structure and various portions of the genital tract.

Gehle, as quoted by Williams, stated in 1881 that a positive diagnosis of genital tuberculosis during life was impossible. But since Koch's brilliant discovery such a position is no longer tenable. The microscope will settle beyond doubt the question of tuberculosis affecting the vulva and vagina. If the same means be applied to tuberculous ulcerations of the cervix they will be readily diagnosticated from carcinomata, for which they are most frequently mistaken. Many have been able to diagnose with certainty cases of tuberculosis of the uterus in which there was apparently no trace of tuberculosis elsewhere in the system. Whenever there is the slightest suspicion the vaginal and uterine secretions, together with portions removed from the fundus of the uterus by curettage, should be examined with the greatest care, and inoculation tests should be made if necessary. But when it comes to making a diagnosis of tubercular disease of the tubes and ovaries the matter becomes more difficult. It is not so easy to obtain specimens for examination. A probable diagnosis of tuberculosis of the tubes may be made in any case when, in addition to distinct tubo-ovarian masses, we are able to diagnose tubercular peritonitis, or, as Osler expresses it, "the association of a tubal tumor with an ill-defined anomalous mass (tubercular tumor) in an abdominal cavity should arouse suspicion at once" (Williams). And the same authority, quoting Edebohls, says the coexistence of tubal tumor or tumors with plaque-like thickenings of the subperitoneal tissues points with the greatest distinctness to tuberculosis. The tuberculosis under these conditions may fairly be assumed to be primary in the tube or tubes if no other deep-seated tumors can be palpated in the abdominal cavity. In one case of pyosalpinx suspected of being tuberculous, Edebohls made a positive diagnosis by an exploratory puncture of the pus sac, under the guidance of a combined vaginal and rectal touch, and the revelation of tubercle bacilli upon examination of the fluid removed. No one doubts the gravity of the situation when tuberculosis is found affecting any organ of the human body. Though we concede the conservative forces of Nature in some instances, yet the progress of the disease in most cases is toward a fatal termination. Such being the case, any successful effort to remove the offending focus or foci will be hailed with delight.

The treatment of tuberculosis of the vulva, vagina, and cervix

does not come within the scope of this paper. The destruction of the tuberculous focus by fluid or solid caustics has been advocated by some surgeons, and, if these means are not satisfactory, extirpation of the part is recommended. We have a very efficient means for the removal of tubercular ulcers of the vagina and vulva in the application of the tincture of iodine. They rapidly disappear under its use. In case of failure, however, excision can be practised. When the cervix is involved, and not the body of the uterus, the method of treatment advised for the vulva and vagina should be given a fair trial, but if they prove ineffectual no time should be lost in amputating the cervix. When the endometrium is involved there is a diversity of opinion as to the best method of procedure. It has been recommended to first curette the organ and remove all evidence of disease. Iodoform suppositories are introduced into the uterus. If there should be a recurrence of the trouble removal of the organ is advised. Now, if we bear in mind that tuberculosis of the body of the uterus is so frequently associated with the same disease in the tubes and ovaries, it seems to me that, having once ascertained without the shadow of a doubt the existence of tubercular disease in the uterus, it is our duty to look for a similar condition of affairs in the tubes and ovaries; and while we may not make the same exactness of diagnosis in regard to these organs, yet if we can be morally certain of their diseased condition it behooves us to waste no valuable time in curetting the uterus and treating it with iodoform, but to proceed at once to the performance of an abdominal section for the removal of the uterus, tubes, and ovaries. This heroic method of treatment is advocated in primary disease of these organs. In a case complicated with tubercular peritonitis there would be no special danger in removal of the tubes and ovaries. We all know how many cases of that disease have been cured by section and drainage. We could then curette and treat the body of the uterus.

But in a patient suffering from phthisis associated with secondary disease of the genital organs the surgeon has a much more difficult problem to solve. The general condition of the patient must be taken into consideration, and he must weigh well the chances of life, even if his operation prove a success. In advanced phthisis it is doubtful if it would be worth while to expose the patient or her friends to the care, expense, and risk of an operation so fraught with danger and so devoid of hopeful results. In the early stage of phthisis the surgeon might

he led to decide upon an operation if the general condition of the patient warranted it and she were placed in the very best hygienic and climatic environment.

The purpose of this paper will be served, however, if it succeeds in arousing the members of this Association to the importance of the subject and to the vital necessity of making a more thorough pathological study of the organs removed from the female abdominal cavity.

THE RETROPERITONEAL TREATMENT OF THE PEDICLE IN OVARIOTOMY AND IN SALPINGO-OÖPHORECTOMY.

BY

HENRY KREUTZMANN, M.D.,

Gynecologist to German Hospital, San Francisco, Cal.

THE technical side of ovariectomy, until quite recently, seemed definitely settled. Now, through the revival of vaginal operations, new interest in the technique has been awakened, and ovarian tumors are removed through the vesico-uterine excavation (colpotomy anterior) as well as through Douglas' cul-de-sac. It is a matter of fact that the immediate result of ovariectomy cannot be and is not improved in any way through the vaginal procedure; those tumors which are successfully removed through the vagina give equally perfect results *quoad vitam* if celiotomy is done. Death after ovariectomy has come to be considered an accident, sometimes unavoidable. As far as final results are concerned, it is not to be expected that the vaginal operation will be an improvement over the abdominal one. In both procedures the pedicle of ovarian tumors is treated alike; it is ligated with one or more threads of silk, catgut, or some other material, and dropped.

Through a number of obstetrical observations (supplemented in not a few instances by the pathologist's research) made upon women where vaginal fixation or ventrofixation had previously been done, it has been proved that the peritoneum enters into very firm union with the subperitoneal connective tissue. In the routine treatment of the ovarian pedicle, ligation and cutting, ample opportunity is given to the connective tissue of the pedicle, denuded from its peritoneal covering at the cut surface, to contract adhesions with abdominal organs; besides this the

heavy ligature used by many operators, especially if non-absorbable, is another factor in producing stump adhesion.

We hear sometimes of complaints about pains in the abdomen from perfectly truthful and reliable women (not only from hysterical, neurotic ones) who had a more or less simple operation for ovarian tumors with "uninterrupted recovery." These complaints are to be traced to the formation of adhesions about the pedicle, and have resulted, in a number of cases, in the reopening of the abdomen and in the successful breaking-up of the adhesions. In other instances intestinal obstruction has been caused by the adhesion of intestines to the pedicle, not only directly after the operation, but sometimes quite late after its performance.

Last year a patient came under my care where, about nine months previously, a simple ovariectomy had been performed with uninterrupted recovery, as far as the abdomen was concerned (a slight pneumonia was present the first few days, due to the inhalation of ether). At the time of my second attendance symptoms of intestinal obstruction had developed. *In extremis*, celiotomy was done, and it was found that the pedicle, ligated in two portions with medium-sized silk, had become adherent to the bowels; a loop of intestines slipped under the ligament thus formed and was strangulated, causing the patient's death.

Ever since it has been my endeavor in cases of ovariectomy, as well as in salpingo-oöphorectomy, to avoid this dangerous result. I tried to do away with the pedicle, treating it in the same way as is generally done in cases of intraligamentous tumors. For this purpose it became necessary to change somewhat the usual *modus operandi*. The tumor and adhesions are handled in the usual way, special care being taken to sew up every tear in the peritoneum. At the basis of the tumor the peritoneum is split with fine scissors, carefully stripped back, a cuff formed, and the pedicle denuded from the covering peritoneum. The pedicle proper then is cut step by step; the blood vessels are taken up by artery forceps either before they are cut, as they become visible, or after they have been severed. After removal of the tumor the blood vessels are carefully ligated and the peritoneum sewed over them with either running or interrupted stitch, the best material probably being catgut. In this way I have operated upon all ovarian tumors that came under my care lately, with a few exceptions (vaginal operations), also certain inflammatory tumors of the

adnexa. I have been more and more convinced that the insufficient final results in the latter category of cases which we sometimes encounter are due to the ligature *en masse*—frequently executed with rather heavy silk—and to the fact that the retroperitoneal connective tissue of the pedicle is left open, sometimes after being infected during operation.

Aside from proper selection of the cases, I consider a most careful operation and retroperitoneal treatment of the pedicle essential to perfect final results. Above and before all, a thorough diagnosis must be made of the existing condition of affairs. According to the status present the *modus operandi* must be selected. It is ridiculous to speak of vaginal or of abdominal surgeons. A man who undertakes to treat those real *cruces medicorum*, the inflamed uterine appendages, must be a physician and a surgeon; he must have full command over vaginal as well as abdominal routes. There are cases which can only be cured by vaginal operations, either a simple incision or removal of both appendages and uterus. It is against sound surgical principles to set up certain rules, such as to always do "uterine castration," or to always remove the uterus with the appendages. Every case must be handled according to its merits. The treatment must be made to fit the case, but nobody must try to fit the cases to some certain operation. It is not the uterus, if left behind, that mars the final results, but the condition of the pelvic peritoneum at the time of operation and the treatment of the pedicle; this, at least, is my personal experience. We meet cases where the pedicle cannot properly be treated in the retroperitoneal manner, either because the wound was soiled or infected during the progress of enucleation, or because the parts, and especially the uterus, have been much torn and injured; here the uterus must be removed with the appendages.

To me the abdominal route is the route of choice in ovariectomy as well as in cases of salpingo-oöphorectomy. Under special indications the vaginal route must be selected; in other instances this latter method is preferable, even if proper retroperitoneal treatment of the pedicle is impossible, as when, for some reason, a complete narcosis cannot be had. A thorough, deep narcosis is essential for the retroperitoneal treatment of the pedicle through celiotomy; the vaginal operation, on the contrary, does not require very deep narcosis. Very fat abdominal walls are another factor that has induced me to work through the vagina rather than from above—the explicit desire.

of the patient not to have any cutting done on the outside, etc.

The treatment of the pedicle as described above requires free access and free view of the field of operation. The incision must not be too small. No more immediate danger arises from a long incision than from a short one; the only possible objection to it is, the longer the incision the more time is required in closing it and the greater the danger of consequent hernia. If strict asepsis is had, if the suture of the abdominal wound is done correctly, if the patient is kept in bed sufficiently long, no hernia will develop.

Asepsis and correct suture are practised by every operator nowadays. To allow a patient, after an operation in the abdominal cavity, no matter from where access is gained, to leave the bed in a week or two, must be considered a reckless practice, especially bad in inflammatory affections. Rest in bed is an important factor in the cure of the patient, not only from the operation but from the disease. I fully realize the importance of avoiding abdominal hernia, but what the consequences of the vaginal operations will be in this respect time has not yet revealed.

The next requirement for full view is the eventration of the pelvic cavity. Deep narcosis and Trendelenburg posture enable us to push the intestines out of the pelvis, if necessary, after severing intestinal adhesions. With the aid of a cloth the intestines are kept out of the pelvis; they are not seen or touched any more. As far as the general peritoneal cavity is concerned the operation is performed extraperitoneally.

The operation of ovariectomy and of salpingo-oöphorectomy, if done in the manner described, is undoubtedly a clean surgical procedure. It is certainly possible through a small hole in the vagina to get at the pelvic organs in order to pull them out sufficiently for ligating or clamping. I have done it successfully in several cases, but I was not able to properly attend to the pedicle. I see that others have had the same difficulties: Mackenrodt, while doing colpotosmia anterior, had to remove the uterus four times (among thirty cases) in order to save the patient's life, which was endangered from hemorrhage.

As stated before, the immediate result of ovariectomy will be equally good, no matter whether the tumor is removed through the vagina or through abdominal section. The same is true for cases of salpingo-oöphorectomy, for inflammatory disease, for ectopic gestation, etc. Whenever the "tumor" can be removed

successfully through an opening in the vagina, either anteriorly or posteriorly from the uterus, celiotomy will give just as low a mortality.

But no doubt can exist that perfect final results can only be obtained where the pedicle is subject to a proper surgical treatment, and from my personal experience I must say that the retroperitoneal treatment of the pedicle will answer perfectly.

For uterine fibroids this treatment of the pedicle and a similar surgical procedure, ligating the blood vessels, and not ligation *en masse*, is considered the best operation. No reason exists why the retroperitoneal treatment should not be applied in ovariectomy and in removal of the uterine appendages.

1018 SUTTER STREET.

THE MOST POTENT CAUSES OF PELVIC INFLAMMATION.¹

BY

RUFUS B. HALL, A.M., M.D.,

Professor of Clinical Gynecology, Miami Medical College; Gynecologist
to the Presbyterian Hospital, Cincinnati, O.

It is well recognized by the profession that the most potent causes of pelvic inflammation are septic infection following labor and abortion, and gonorrheal infection; to these we might add the extension of inflammation to the tubes and ovaries from chronic endometritis. With these facts before us it is only necessary to study carefully the various modes of infection to be master of the situation, so far as it is possible to be.

While septic infection following childbirth is by no means the most frequent cause, for convenience it will be the first considered. It is growing less and less frequent as we better understand the laws of cleanliness in midwifery, so I shall not consume much of your time in discussing this phase of our subject; but there will always be cases of infection following labor which are in no wise due to the negligence of the physician in charge. When infection does occur the patient succumbs within a few weeks, or recovers after many weeks of severe illness to become the subject of chronic endometritis. If the patient survives more than sixteen or twenty days from the commence-

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

ment of her attack she usually recovers. Occasionally we see all the manifestations of chronic sepsis lasting for weeks or even months. It is a perplexing problem, in many of these cases, whether to advise an operation or not. After pus formation can be diagnosticated there can be no doubt as to the advisability of removing it. I can now recall three cases following labor at full term in which pus was formed in large quantities many weeks after the commencement of the illness. I was called when the pus was pointing in each case.

The first case was in the practice of Dr. Rinehart, of Covington, O. in 1893. The doctor was called several days after infection was well established. Some four weeks after delivery I was asked to see her, at which time all the manifestations of sepsis were pronounced, with a distinct fluctuation and pointing midway between the anterior superior spine of the right ilium and the umbilicus. The patient was anesthetized, the abdomen opened, and two or three pints of thin, yellowish pus liberated. The cavity was irrigated and drained, and the patient made a slow recovery.

The second case was in the practice of Dr. Fisher, of Lebanon, O., in 1895, and was seen several weeks after confinement. The abscess was pointing near the right anterior superior spine of the ilium. The patient was greatly exhausted from profound sepsis. She was anesthetized, the abscess opened, irrigated, and drained, but the patient died from her septic condition some ten days following the operation. This patient was known to have a small pelvic tumor, size of an orange, for several years preceding her confinement. At the previous confinement, some three years before, she had a severe attack of abdominal inflammation threatening her life for several weeks. At this time the tumor was discovered, and injury to it during the confinement was supposed to be the cause of her attack. She was advised to have the tumor removed, but would not consent. Her last confinement was followed immediately with an attack of inflammation in the abdomen. The fact that she recovered from the other attack without operative interference made it more difficult to get the consent for any operation early enough to be of any avail. The exact pathological condition causing the infection in this case cannot be stated, but it is probable it was rupture of a small dermoid tumor of the ovary.

The third case came under my observation recently. Four and a half months ago a strong, vigorous German woman was delivered by a midwife. On the second day following she had

a chill, and soon after Dr. Wendel, of this city, was called. All the manifestations of sepsis were present, and the usual treatment for this condition was carried out faithfully. The patient had a tedious illness with varying fluctuations, sometimes better, sometimes worse. June 9th an enlargement was observed over the region of the left anterior superior spine of the ilium, and that thigh was flexed upon the body. I saw her on the 10th. Fluctuation could be detected in the swelling. She was sent to the Presbyterian Hospital, and on the 11th was anesthetized, an opening made over the most prominent point external to the anterior superior spine of the ilium, and the pus evacuated. Passing the finger into the opening, it was found that the entrance into the pelvic cavity was an inch above the middle of Poupart's ligament, and a second opening was made over that point so as to be better able to drain the pus cavity. This patient is yet in the hospital, making a slow convalescence. She will probably recover.

In the first and last cases the infection should have been avoided. The second case is one in which infection took place from disease in the pelvis preceding her delivery. Similar cases, no doubt, are rare, yet must always be considered in the management of septic cases. I have knowledge of two other such cases.

A very frequent cause of pelvic inflammation is septic infection following abortion. A septic endometritis following abortion is not well when the patient is able to leave her bed, but it requires an indefinite time for Nature to repair the diseased process. Not infrequently the patient suffers vague pains in the pelvis and slight backache, complains of some leucorrheal discharge associated with irregular menstruation. She applies to her physician for relief, and upon examination it is plainly evident she is the subject of salpingitis directly due to her endometritis. The salpingitis may go on to suppuration in the tube, notwithstanding well-directed treatment. In others the symptoms are not so pronounced. The patient suffers, for months, only from inconvenience at her menstrual periods, which are somewhat prolonged. She thinks she is so near well that it will only be a matter of a few weeks until she is restored to perfect health. Finally her sufferings become more pronounced; she applies to her physician and he finds unmistakable evidence of salpingitis. Salpingitis is developed after septic endometritis much more frequently than is generally supposed. A. Martin, of Berlin, puts the number at forty-eight per cent of

all cases. Others estimate its frequency at from twenty-five to fifty per cent. Just how frequent it is is a most difficult thing to determine in family practice. It is a preventable condition in a large per cent of all cases. The results to the patient are so disastrous, it is all the more important that we should study every phase of it. That it should follow endometritis so frequently is very easy to understand when we remember that it involves the tubes by extension of the inflammation through the lining membrane.

That abortion is of very frequent occurrence every physician knows. Many of these cases are complicated by the retention of decomposing membranes. That Nature is competent to relieve a large per cent of these cases is well known. In a certain per cent the patient suffers septic endometritis from the retained membranes. This lays the foundation for a long train of symptoms with untold physical suffering. I believe that self-induced abortion in women is more frequent than is generally supposed. I am also convinced that it is the popular belief that there is no danger at all from abortion before the third month. For this reason many women do not hesitate to rid themselves of the undesired products of conception. We, as physicians, know full well that it is in the early months there is most danger to the patient from retained membranes. I believe that many women would be deterred from producing abortion if they knew the real danger of it. We would have better results in all septic cases if the patient were anesthetized and the uterus thoroughly emptied of its septic contents. If this is done within a day or two after septic symptoms are manifest the patient usually makes a very prompt recovery. The expectant treatment frequently results in a subsequent salpingitis.

One of the most frequent causes of pelvic inflammation is gonorrhea. It is a well-recognized fact among physicians that almost all women suffering from gonorrhea, outside of houses of prostitution, contract it from their husbands. My experience leads me to believe that in many of those cases suffering from its effects the husband contracted the disease, but believed himself cured before his marriage. The more I see of the ravages of latent gonorrhea in women, the more I am convinced of the fact that the profession is derelict in its duty to its patients in the dissemination of knowledge upon this subject. The majority of my hearers to-day were taught as medical students that gonorrhea was as harmless as a cold; that it could be

easily cured in a few days by a little balsam of copaiba or oil of sandal, with mild astringent injections. As soon as the purulent discharge ceased the patient was pronounced well. It was only where a stricture was developed that the physician was called to treat the patient after the first few weeks. This is a false doctrine and one that needs correction. It must be rectified by the profession at large, or we cannot do our whole duty to our patient and his prospective wife. I have on many occasions been compelled to remove suppurating tubes and ovaries from women who had contracted the disease from husbands who believed themselves well when married. While I am not willing to indorse the extreme views of Noeggerath, there is some good, wholesome knowledge to be gained from his doctrine. He asserted that gonorrhea remained uncured in ninety per cent of all men affected. Another assertion which he makes is that of one hundred women marrying men once affected with gonorrhea, scarcely ten remain absolutely well; the others suffer from some of the ailments directly traceable to the disease. These figures, no doubt, are exaggerated. The facts nevertheless remain that a very large per cent of women marrying this class of men do suffer from latent gonorrhea, and not a few of them finally develop suppurating tubes. Since the discovery of the gonococcus it is perfectly easy for the gynecologist to demonstrate the existence of gonorrhea in his patient without her knowledge. I have no hesitation in asserting that gonorrhea is more destructive to women than syphilis. It is a duty every physician owes his patient to impress upon him the fact that he is not well as soon as the urethral discharge disappears. With our present knowledge upon this subject, we can assert that no man has a right to marry until the irritant injections show the absence of gonococci in the discharge. This is not infrequently a period of two years after the beginning of the acute symptoms. The test should be made by the injection of a five per cent solution of nitrate of silver, which will cause a slight urethral discharge for a few days only. If this discharge does not reveal the presence of gonococci he can marry in safety, but if it does he should be prohibited from marrying. Should he marry he will certainly infect his wife. If the profession would advocate and practise this doctrine we would right many of the existing wrongs. I am a firm advocate of legislation upon this subject. I believe every man should have a certificate from the health officer of freedom from syphilis, gonorrhea, and, I might justly add,

tuberculosis also, before he is granted a marriage license. Until legislation is enacted the parents of the prospective bride should demand from the intended groom a certificate of freedom from venereal diseases by a physician of their selection. If this could be brought about there would be no necessity for fully one-half of the sections now made, and a corresponding amount of suffering, both mental and physical, would be obviated.

A RAPID METHOD OF STAINING AND PREPARING TISSUE FOR MICROSCOPICAL DIAGNOSIS.

BY

LUDWIG PICK, M.D.,

Pathologist Landau Frauenklinik, Berlin, Germany.

As is well known, the opinion of gynecologists varies greatly as to the value of the anatomico-pathological diagnosis of uterine diseases when derived from an examination of excised or curetted material. While this diagnostic procedure is, for instance, in Germany much recommended and practised, it has not as yet obtained a very general recognition. Naturally, practical results and not theoretical discussion must decide the worth of any diagnostic method, and it is desirable, in fact necessary, to have a technique that is practicable in the gynecologist's office as well as in the laboratory. To this end it must not be more difficult than, for instance, a urinalysis. As the celloidin and paraffin embedding methods demand considerable care and time, and free-hand cutting calls for much manual dexterity and practice, I may be allowed here to describe a much more rapid and convenient and eminently practical method.

The technique that has been used in the laboratory of the Landau Frauenklinik for some time permits the preparation of fixed, hardened, and stained microscopical sections of curetted or excised material within ten to fifteen minutes' time, and these, without further treatment, are ready for indefinite conservation. For this technique no special manual dexterity or practice is required. In considering the usual method of preparing frozen sections several objections must likewise be considered. "Tissues rich in cells (endometrium) do not hold

together well in cutting; important parts are lost during their handling (glands, superficial epithelium); are apt to be of irregular thickness, or when thin are friable and do not stain well; finally, on account of shrivelling and wrinkling in the alcohol and imperfect translucency, are only for temporary, not permanent use" (Plenge). These difficulties, at least as far as the uterine and vaginal tissues are concerned, are done away with at one stroke by the employment of a four per cent aqueous formalin solution, into which the sections are carried directly from the microtome knife. The formalin hardens them in a very few minutes and gives them the desired toughness without shrinking or shrivelling. "The plasma is converted into a firm and homogeneous mass, and the cellular elements hardened and cemented together" (Reimar, Trillat, Plenge). As the sections lie in this solution they can be easily unrolled or unfolded without injury, and after the few minutes necessary for the fixing and hardening in this solution, they stain as well as do those hardened for days in alcohol. From the formalin solution the section is brought for one minute in distilled water, then stained for four minutes in a strong (four per cent) alumcarmin solution, washed again in water, dehydrated by placing for thirty seconds in eighty per cent alcohol, ten seconds in absolute alcohol, clarified for half a minute in xylol-carbol, and mounted with Canada balsam.

In connection with the formalin method we wish to mention that Thomas S. Cullen, Baltimore, first recommended the employment of such a solution.¹ Plenge employed it later, tested it thoroughly, and gave a description of the results obtained.² But while Cullen treated the sections afterward with alcohol, we have shown this is unnecessary and that the staining can follow the formalin *immediately*. Plenge used only material previously hardened in alcohol. The cutting apparatus which we use, and in fact consider necessary for the method, is the *Jungs Hobel* (carpenter's plane) microtome, described by P. Schieffdecker,³ and later employed by Plenge.⁴ It is an ether spray freezing microtome, with the knife—which is in fact a carpenter's plane—set at right angles to the freezing column. It is simple, cheap, and durable, and can be attached to any table or bench by means of a screw and clamp.

Without going into a more technical description, I will say

¹ Centralblatt für allg. Pathologie und path. Anatomie, 1895.

² Virchow's Archiv, 1895, and Münch. Med. Woch., 1896.

³ Zeitschrift für Wiss. Mikroskopie, 1894.

⁴ Loc. cit.

that by its use one is enabled with astonishing ease and rapidity to secure a large number of thin large sections and with very little waste of ether. The little apparatus fulfils the chief indication in the examination of curetted material—*i.e.*, obtaining a large number of sections from the small masses—equally as well as the more expensive and complicated microtomes used with the ether or celloidin embedding process.

The material to be cut is freed as much as possible from blood, and then a particle, as a rule not larger than one centimetre square and two millimetres thick, placed on the freezing column. Smaller masses, as from curettement, can be so arranged that one gets from five to ten even, regular sections with every movement of the knife. Each section is wiped off the knife edge with the finger tip and then floated into the formalin solution. The thawing of the specimen on the finger and the use of boiled water in the solution prevent the formation of air bubbles, which otherwise may be very annoying. For carrying the sections from one solution to the other we use, instead of a spatula, a small solid glass rod, around which they are rolled and freed from folds and wrinkles. The superfluous fluid is removed by touching with bibulous paper and the section floated off into the next solution. The unused sections and residue of tissue, after thawing, can be put into eighty per cent alcohol and kept indefinitely, treated as the usual alcoholic preparations.

Specimens prepared according to the above technique render for histological purposes all the service that can well be demanded—*i.e.*, diagnosis of pregnancy from fragments of decidua or chorion, diagnosis and differential diagnosis of endometritis, adenoma, carcinoma, and sarcoma uteri, erosion, simple ulcer and cancrroid of the portio, etc. Our experience with the method has taught us that the dogmatic statements of the injury done to the tissues by freezing do not hold, at least not in consideration of this field—gynecological diagnosis. The thin, regular, and well-stained sections show the mutual relations of epithelial and connective-tissue elements, proliferation and changes in form of epithelium, glandular abnormalities, proliferation and infiltration of the stroma, decidual membrane, remnants of placenta—in short, *all* the conditions and changes that are to be met with. Especially is the shrinking and retraction absent which so often occurs with the alcohol hardening, allowing important elements to fall out. Through this avoidance of shrinkage of the tissue *en masse*, and consequent

crowding together of the cells, the sections obtained are relatively and actually thinner and more transparent. The value of this in a richly cellular tissue, as the endometrium, is self-apparent. Indeed, in most of these sections the tunica propria of the uterine glands and the faintly stained *plasma* (not nuclei) of the stroma cells, as well as the prickly cells in the stratum Malpighii of the vaginal and portio mucous membrane, can be distinguished—proof of the effects attained, which are with alcohol difficult. Finally, the specimens so prepared in a quarter of an hour or less are *permanent*. When a diagnosis by means of this method cannot be established, which of course may happen, it is not a fault of the technique.

The other procedures in employment—free-hand cutting after alcohol hardening, frozen sections after four per cent formalin hardening (Plenge) or concentrated formalin (Kiefer), Müller's or Fleming's solution with paraffin or celloidin embedding, etc.—do not give as good results, and above all are not adapted for as speedy execution. However, for the examination of a single very small (pin-head size) mass as is sometimes necessary, the embedding method would of course be employed. Here may be mentioned also that celloidin blocks, after twenty-four hours' maceration in water, can be frozen and cut as exactly as with the larger microtomes. When for any reason fresh tissue cannot be at once examined, we use the four per cent formalin solution and harden *en masse*, as recommended by Plenge.

Naturally it seems that the above-described method, which we have employed in gynecology, would be applicable for other anatomico-pathological diagnoses, and we hope further experiments will establish this. But for the rapid, convenient, and certain histological diagnosis as applied to gynecology we have as yet found nothing to equal it. The following case may serve to illustrate its practical value:

CASE.—Married woman, æt. 25, treated outside the clinic for seven months for metrorrhagia; curetted three times without result. *Examination*.—Adnexa free, uterus slightly enlarged. In the right side of the cavity at the fundus is a rounded, walnut size, firm tumor. *Clinical diagnosis*.—Myoma uteri with hemorrhagic endometritis. *Therapy*.—Operation. Anterior wall of uterus split from os to fundus for the purpose of enucleating the myoma. In place of the expected myoma we found a rather brittle granular tumor, firmly adherent to the surrounding myometrium, which was with the tumor excised. Within eight minutes, and during the operation, a hardened,

stained, and conserved specimen showed the typical picture of serotinal carcinoma. So, instead of the intended conservative enucleation, a total vaginal extirpation was at once performed.

To close with a short recapitulation of the technique:

1. The tissue, as free from blood as possible, is frozen, and cut with the Jungs Hobel microtome.
2. The sections, wiped from the knife with the finger, floated into the four per cent formalin solution, hardened for three minutes.
3. From this solution into water for one minute.
4. Alum-carmine, four per cent solution, stain four minutes.
5. Distilled water, one minute.
6. Alcohol, eighty per cent (by means of glass rod), half-minute.
7. Alcohol, absolute, ten seconds to dehydrate.
8. Carbol-zytol, half-minute.
9. Mount with Canada balsam.

THE DIFFERENTIAL DIAGNOSIS OF THREATENED ABORTION AND ABORTION OCCURRING BEFORE THE EIGHTH WEEK OF GESTATION.

YE

T. RIDGWAY BARKER, M.D.,
Philadelphia, Pa.

THAT confusion should arise in the diagnosis of these two conditions would at first seem unlikely and could only be ascribed to ignorance or culpable carelessness; yet there are doubtless not a few practitioners of obstetrics who can recall cases of this nature where the future course of the affection subsequently proved that they were mistaken in their diagnosis.

While in the vast majority of instances the antecedent symptoms of abortion differ materially from those where expulsion of the product of conception has taken place, yet before the eighth week of gestation the points of dissimilarity are not as well defined as one might be led to suppose.

Further, the desire on the part of the patient to conceal the real state of affairs and mislead the physician is not the least of the many difficulties encountered. The information she has gathered from friends who have passed through a similar experience places her in command of facts bearing directly upon

the differential diagnosis, and she is quite prepared to answer his leading questions as best suits her purpose. Whether the woman is married or single, the history and intent to deceive are much the same. The above statements, of course, apply only to those cases where an abortion is desired and where attempts have been made to induce it but have failed. When it has occurred the object of calling in a physician is usually to increase the patient's chances of recovery, and, failing in this, to throw the blame on his shoulders.

What are the symptoms which are liable to give rise to confusion in diagnosis? one may well pause and ask himself. The answer would properly be that the difficulty arises more from a lack of well-defined symptoms than anything else. Pain and hemorrhage attend both conditions and are therefore of little value. To cite a typical case will doubtless simplify the subject more perfectly than any attempt at classifying symptoms.

Mrs. A., æt. 38 years, mother of several children, is found in bed. She is observed to be thin, pale, emaciated, and very nervous. There exists great depression of spirits, associated with headache, vertigo, coated tongue, loss of appetite, etc. She states she has suffered from occasional attacks of vomiting for several weeks, which have not always been confined to the morning; thinks they are due to something she may have eaten. Of late the nausea has been less frequent and persistent. In regard to menses, has missed once or twice—not positive on this point, as she has always been very irregular. Has not noticed any increase in size of abdomen. Colicky pains in lower part of stomach occasioned considerable annoyance, at times quite severe; they extend down the thighs and into her back. Urine discovered to be high-colored, but of normal quantity. The discharge of blood from the vagina, she states, has persisted for several days, at times considerable. There has always been some leucorrhea. The odor of this discharge is mentioned by her to be offensive and on the increase. Attacks of fainting often follow passage of clots. Abdominal palpation discloses the fact of uterus being slightly enlarged and tender; ovaries similarly affected. Digital vaginal examination shows uterus to be low down in the pelvis; cervix softened; os patulous. Discharge free, but not offensive as stated by patient. It consists almost wholly of blood. Inspection of breasts: vessels somewhat congested; nothing, however, very characteristic. Patient unable to leave her bed on account of weakness and vertigo.

Now, what is the diagnosis? Has Mrs. A. aborted and is she suffering from an induced endometritis, or is she threatened with an abortion? In answer to the question, "Has anything passed by the vagina which would lead you to think you have had a miscarriage, Mrs. A.?" she will most likely reply, "Oh, yes." Here one has a condition, not a theory, to deal with.

If she has aborted there is but one line of treatment indicated, and that is to remove all débris from the uterine cavity and render it aseptic; fail in this respect and she will most likely die from septic infection. But if she has not aborted, but the symptoms and her replies lead the physician to think that she has, and he resorts to such measures, then he will himself induce an abortion and receive all the censure. Therefore the practitioner's honor and reputation are at stake. Unless he is on his guard in the management of these cases, he will find an error in diagnosis fatal to his professional advancement.

How, then, shall one treat these doubtful cases? Delay in the one case would seem to be almost as dangerous as hasty interference in the other. The plan best suited to this condition would appear to be that which has for its basis the character and amount of the uterine discharge and the patient's general nervous state. Where the flow remains free from odor and consists of blood without membranous shreds or detached chorionic villi, the temperature and pulse normal or nearly so, it would seem unwise to have recourse to instrumental interference within the uterine cavity. Internal remedies directed to the building-up of the patient, as the compound syrup of the hypophosphites, strychnine, etc., and attention to the diet, with rest in bed, are generally all that are required, save a mild sedative to relieve nervousness. A warm antiseptic vaginal douche two or three times a day will also tend to assist in recovery. Should hemorrhage become alarming more heroic measures will be demanded. Ergot should be avoided in the treatment of these cases, as in the event of a fatal termination its administration might be used as proof of an attempt to induce an abortion. These measures all serve a useful purpose in giving the ovum a chance to strengthen its attachments, and at the same time prepare the patient for an abortion, should it prove inevitable.

One other important point is to be borne in mind in regard to the differential diagnosis, and that is, as long as the mental depression and gastric irritability persist there is good reason for assuming that the product of conception is still within the

uterine cavity and attached to its decidua. Two much stress cannot be laid upon this fact. The sense of relief and the rise of spirits which follow separation and expulsion of the ovum are something quite remarkable. When such a change is noted further temporizing is unwarranted, indeed likely to prove dangerous.

To sum up, then, the points of differential diagnosis, it may be stated that those possessing the greatest value are the condition of the nervous system, the severity of the gastric disturbance, the inoffensive character of the uterine discharge and its freedom from shreds of decidual tissue. These, when taken collectively and placed beside those of an ordinary abortion, should in nearly all instances be sufficient to clear up the diagnosis. The discharge should be repeatedly examined to see if the ovum is present. The subjective symptoms, other than those mentioned, are of little value, as they are all colored by the woman's desire to deceive.

427 SOUTH SIXTEENTH STREET.

PROLONGATION OF PREGNANCY :
ITS DANGERS AND TREATMENT.¹

BY

WARD FREMONT SPRENKEL, M.D.,
Assistant Obstetrician to the University Hospital Maternity,
Philadelphia, Pa.

MY attention has been called most forcibly to the above title, from the fact that I have had under my care at the University Hospital Maternity during the past year two very striking examples, in one of which cephalotripsy was performed and in the other Cesarean section.

That these operations were necessitated solely on account of the great prolongation of pregnancy can be readily seen from an examination of the histories of the cases, which were as follows :

CASE I.—M. G., white, æt. 42 ; family and personal history negative ; IVpara, last being twins ; two miscarriages. Previous labors difficult, although easily terminated by the use of

¹ Read before the Section on Gynecology, College of Physicians of Philadelphia, October 15th, 1896.

forceps. She was brought to the Maternity in the ambulance at 3:30 o'clock in the afternoon of August 3d, 1896, having been in active labor for thirteen hours. At this time the history elicited was as follows : Menstruated last September 26th, 1895; fetal movements first noticed about February 15th, 1896. As far as she knew, this pregnancy was in no way different from preceding ones except for its long duration.

Abdominal palpation showed fundus at the ensiform cartilage; back of child in right flank; head large, resisting, and freely movable above the pelvic brim; contraction ring about three inches above symphysis pubis; the abdomen large and pendulous. Auscultation was negative. Neither fetal heart sounds nor uterine souffle were heard, although heart sounds were distinctly heard earlier in the day by the attending physician. Vaginal examination showed the os fully dilated, the membranes ruptured, lower uterine segment very thin, sagittal suture in the transverse diameter, occiput pointing to the right. The true conjugate diameter, estimated by digital measurement, was 8.5 centimetres.

In order to ascertain positively whether the child was dead, as suspected, a hand was introduced into the uterine cavity and the cord palpated. It was found pulseless, and, in view of this positive evidence of the child's death, craniotomy was selected as offering the best method of delivery.

This was performed in the usual way: parturient tract made thoroughly clean; head fixed with volsella forceps; skull perforated at site of anterior fontanelle; brain substance washed out with large two-way metal catheter and sterile water. An attempt was then made to extract the child with the cranioclast; this failing, the cephalotribe was applied, the skull crushed and extracted with the greatest difficulty. An effort was next made to deliver the shoulders, which were felt to be unusually large. This was unsuccessful at first, but finally, with the help of an assistant pulling upon the neck, they were extracted by making strong, continued traction by means of an index finger hooked under each axilla. The placenta was expressed almost immediately, the womb contracting quite firmly. The child was a male, measured 56 centimetres in length, and weighed 5,542 grammes. The skull was so crushed that no measurements could be taken; the bisacromial diameter, however, was 20 centimetres.

CASE II.—R. L., Italian, æt. 40; no family history obtainable; personal history negative; Vpara; one miscarriage.

Previous labors normal, none but the first being unusually prolonged. She was sent to the Maternity at 11:30 o'clock in the evening of April 27th, 1896, after having been in active labor for thirty-six hours. I saw this case with Dr. Hirst, the history being as follows: Menstruated last June 12th, 1895; fetal movements noticed about November 1st; labor pains began about 10 o'clock in the morning of the 26th of April, 1896, and continued strong and active until about three hours previous to her arrival at the hospital. During this time she was attended by three physicians, each of whom attempted to extract the child with axis-traction forceps.

Abdominal palpation showed the fundus well up to the ensiform cartilage, the child's back to the left, the head freely movable above the superior strait; contraction ring midway between symphysis pubis and umbilicus. Auscultation revealed uterine souffle, but no fetal heart sounds. Vaginal examination showed the vulva and vaginal walls greatly edematous and lacerated from previous efforts at extraction, the os fully dilated, membranes ruptured, the lower uterine segment extremely thin; sagittal suture in the transverse diameter, and the small fontanelle looking toward the left. The true conjugate diameter was estimated at 8.75 centimetres.

Although the child was thought to be dead, yet, on account of the condition of the vagina, already infected and sure to be seriously injured by the passage of the child, the high position of the contraction ring, and the almost certain infection of the womb, Cesarean section was decided upon, the Porro operation being performed. No unusual difficulty was encountered in the operation, and a female child with an enormously developed head was extracted. The measurements were as follows: length, 55 centimetres; bisacromial, 18 centimetres; bitemporal, 9.5 centimetres; biparietal, 10 centimetres; occipito-frontal, 13.5 centimetres; occipito-mental, 15 centimetres; trachelo-bregmatic, 10 centimetres; circumference, 40 centimetres; weight, 5,280 grammes.

What, then, are the dangers of the prolongation of pregnancy? Certainly the greatest is the overgrowth of the child. Both of these women, although having minor degrees of contracted pelvis, had given birth to children of average size and at term without special difficulty. But allow an extra four weeks of intrauterine growth as in the first case, and five weeks as in the second, and we have enormously developed children which from their size alone demand the most serious

operations in obstetrical surgery. Had these women been delivered at term of children with soft, compressible heads of average diameters, no such difficulties would have been encountered and both children would in all probability have been alive to-day.

But there are other, although less obvious, dangers, the result of the prolongation of pregnancy. What obstetrician has not seen serious "kidney breakdown" in the last few weeks of pregnancy? And how much more apt is this to occur in those who are overdue! The kidneys, probably the most sensitive of all the abdominal organs, have been working "time" and "half-time" for the past nine months. Extend this physiological nine months to a pathological ten months or more, and the result is kidney insufficiency, eclampsia, and possibly the death of both mother and child. I have myself seen two cases of this character during the past year.

Of all the causes of "accidental" hemorrhage, probably the most common is the prolongation of pregnancy. Recognizing fatty degeneration of the placental attachment as one of the causes of beginning labor, we can readily understand how, if for any reason pregnancy is prolonged, there may be a premature separation of the placenta with its inevitable hemorrhage.

Post-partum hemorrhage may also be a result of prolonged pregnancy, since any condition which unduly distends the uterine walls may by this overstretching cause failure of, or imperfect contraction of, the uterine muscle with its accompanying hemorrhage.

Finally, I wish to call your attention to the fact that septic infection is more likely to occur in these cases than after a pregnancy of normal duration. We know now definitely that the tissue cells possess a certain power of resistance, which when normal is sufficient to overcome, in most instances, the invasion of pathogenic bacteria. Given, then, a case in which the entire system is enervated and enfeebled by this excessive strain; in which the womb contracts imperfectly and therefore retains portions of blood clot, decidua, and the like; in which the entire parturient tract has suffered an exaggerated pressure, contusion, and laceration—how much more readily will these tissues, thus deprived of their vitality, yield to the attack of pathogenic micro-organisms! Yet another cause for the great frequency of infection in these cases is explained by the large number of vaginal and sometimes intrauterine examinations, the frequency with which forceps are used, and also the intra-

uterine manipulations, such as version, which may be necessary to secure delivery.

And not alone does the mother suffer from this prolonged gestation. The dangers to the child are even more grave. Prolonged and continuous pressure of the brain centres may develop a fatal asphyxia, or later may cause imperfect physical development or defective cerebration; delayed labor, with premature efforts at respiration, may result in an inspiration pneumonia; faulty positions may be a cause of prolapse of the cord; and that class of cases in which the disproportion between fetal head and maternal pelvis is great, as in the one just reported, may require some form of embryotomy.

Knowing, then, the more common dangers of the prolongation of pregnancy, should we not take every precaution to prevent them? And in what should this prophylaxis consist? The rule which has been followed at the University Maternity, and which has met with the most satisfactory results, is to terminate pregnancy if it extend two weeks beyond the expected date. By allowing pregnancy to extend only fourteen days beyond term, the danger of overgrowth of the child, as well as the chance for a premature birth, are both minimized.

The question may be here asked: In what percentage of cases is pregnancy unduly prolonged? According to Winckel, who bases his statistics on an examination of 20,000 cases, 6 per cent of pregnancies are prolonged beyond the three hundredth day. An examination of 1,000 consecutive cases at the Preston Retreat shows 23½ per cent prolonged beyond the two hundred and ninety-fourth day. Of 480 cases at the University Maternity, 99 were prolonged beyond the two hundred and ninety-fourth day (21 per cent). The disproportion in these percentages arises from the fact that Winckel's statistics were based on cases that extended three weeks beyond term, while at the Preston Retreat and the University Maternity two weeks was taken as the limit of prolongation.

Especially is this prolongation apt to occur in primiparæ past the age of 30, in whom it is particularly unfortunate, since in these cases labor at term is usually difficult on account of the rigidity of the muscular, ligamentous, and bony structures.

As to the method of inducing labor, the simplest and most effective is the introduction of a sterile bougie into the uterine cavity between the membranes. The technique of this operation—if operation it can be called—is exceedingly simple: 1. The patient should lie in the dorso-sacral position, with legs and thighs flexed and widely separated; the buttocks should extend

well beyond the edge of the table. 2. The external genitals, vagina, and cervix should be thoroughly cleansed by a vigorous scrubbing with linimentum saponis viridis and pledgets of baked cotton, followed by a copious douche of bichloride solution (1:4000). 3. Two fingers of the left hand, previously sterilized and well lubricated with five per cent carbolyzed oil, should now be introduced into the vagina; the middle finger pressed against the external os, which will gradually dilate until tip of finger is at or beyond the internal os. 4. An elastic, silk bougie (No. 17 French), previously sterilized by soaking in cold bichloride solution (1:1000) for one hour, is now passed along the groove between middle and index fingers until it enters the uterine cavity and extends from seven to nine inches between the decidua vera and reflexa. 5. Finally, the bougie is kept in position by a vaginal tampon of iodoform gauze. The patient then lies quietly in bed, labor beginning after a variable period, the average being twelve hours. If at the end of twelve hours there are no signs of beginning labor, a second and larger bougie may be inserted by the side of the first. If this fails, after the lapse of another twelve hours, the cervix, which has become very much softened, may be easily dilated by means of Barnes' bags.

I have the records of more than 150 cases of labor induced in this manner, and all have been perfectly normal and satisfactory in every respect. The dangers of sepsis, if performed in a cleanly manner, are as nothing compared with the dangers of all the unfavorable possibilities above described.

1834 GREEN STREET.

THE OPERATIVE SIGNIFICANCE OF METASTASES AND
POST-OPERATIVE RECURRENCES IN CARCINOMA
OF THE UTERUS.

BY

W. W. RUSSELL, M.D.,

Associate in Gynecology, Johns Hopkins University,
Baltimore, Md.

(With three plates.)

A GREAT advance has been made during the past year in the operative treatment of carcinoma of the uterus by the more radical methods devised by J. G. Clark, Emil Ries, and others, but I have been impressed, on reviewing the vast amount of

literature on this subject, by the little attention that has been paid to the operative significance of some of the anatomical and pathological facts upon which any advance in treatment must depend. Winter, Hofmeier, and Williams have given many valuable suggestions, but their conclusions, based upon their observations, do not seem to me warranted.

In some of the recent articles stress has been laid upon the necessity of a wide removal of the broad ligaments. This has led to some confusion as to its relation to the uterus and vagina, and the direction of invasion in malignant growths originating in various portions of the uterus.

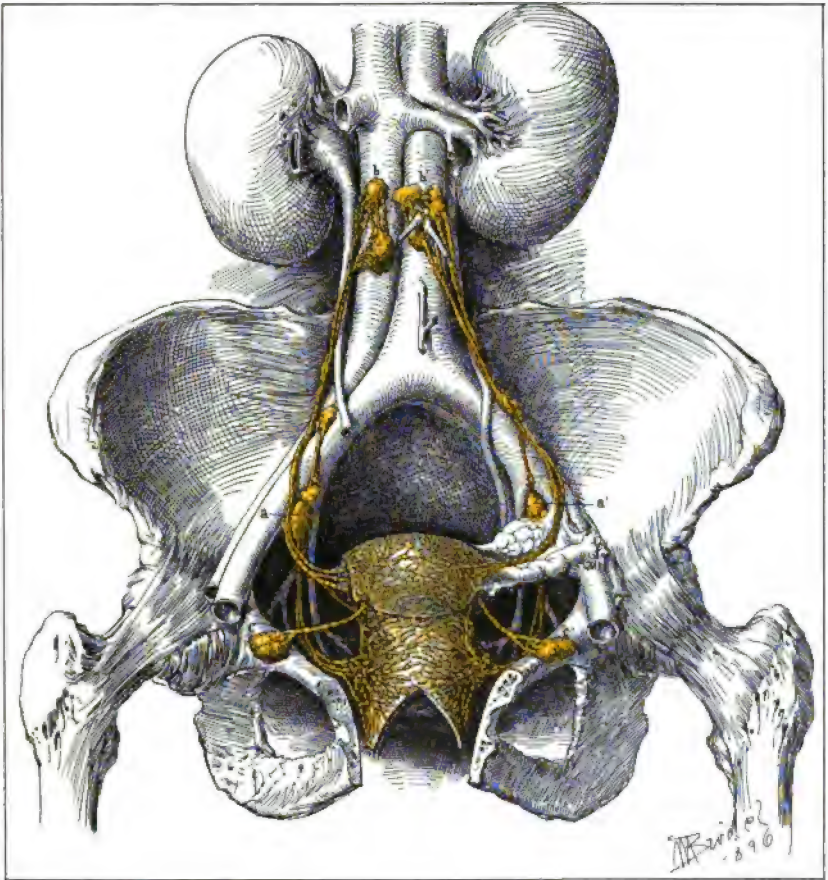
The broad ligament, properly speaking, ends where the anterior peritoneal leaf is reflected forward over the bladder, which occurs at about the utero-cervical junction. The uterine blood and lymphatic vessels extend from the cervix out to the pelvic wall at or just below this point, so that in reality they are not throughout their whole length included between the folds of peritoneum forming the broad ligament. The region between this line of reflexion of peritoneum, vaginal vault, bladder, and pelvic wall is made up of loose connective tissue and is known as the parametrium.

An involvement of the rectum signifies an advance of the disease through the tissue between the posterior vaginal vault and Douglas' cul-de-sac, excluding the case from radical treatment.

The direction of the lymph vessels supplying the different portions of the uterus and vagina, and the position of their glands, can be separated into three distinct groups. The first group corresponds to the uterine vessel and its terminal branches, and supplies the upper one-third of vagina and cervix (Plate, *a-a'*). The first glands connected with this group are found in the parametrium at the broad ligament bases a short distance from the cervix. They are not constant, and when present are often so small that they are frequently not discovered during operation. The most important glands belonging to this group are those lying about the iliac vessels at their dividing point.

The second group is comprised of the lymphatic vessels supplying the greater portion of the uterine body. They converge

EXPLANATION OF PLATE.—*Lymphatics of uterus and upper third of vagina: a and a', glands at bifurcation of the iliac vessels receiving lymphatics from cervix and upper part of vagina; b and b', glands in lumbar region receiving lymphatics from fundus and body of the uterus; c and c', glands in inguinal region receiving lymphatics from uterine cornu through round ligaments.*



RUSSELL—LYMPHATICS OF UTERUS AND UPPER THIRD OF VAGINA.

from the fundus and body, and gradually unite into two large vessels which pass outward along the upper surface of the broad ligament in close relation to the ovarian arteries. From their course it is seen that they pass between the tube and ovary. The first glands met with in this group are those in the lumbar region situated at about the level of the lower border of the kidney, directly in front of the aortic vessels and partly surrounding them (Plate, *b-b'*).

The third group consists of vessels originating in the uterine cornu and passing out into the round ligament to the inguinal glands (Plate, *b-b'*). One large vessel on either side of the uterus gives free anastomosis between body and cervix.

The practical import of this division is as follows: There exist three avenues of escape for malignant growths of the uterus. The first group of these vessels must always be considered in disease of the cervical canal and vaginal portion of cervix, and the second and third groups in disease of the fundus, and it is through these, and these only, according to their separate divisions, that metastases are of operative significance. When the disease has passed beyond the limits of either group, rendering possible the invasion of the lymph vessels of the body by growths originating in the cervix, or *vice versa*, all chance of complete removal is gone.

The anatomical division of carcinoma of the uterus into those of portio vaginalis, cervix, and body in their relation to the above-described distribution of lymph vessels shows clearly the critical points met with in radical treatment of this disease, yet it is of still further value in studying the lines of advance taken by these malignant growths.

Cancers of the Portio Vaginalis.—Cancers of the vaginal portion of the cervix are primarily superficial growths. They may penetrate the deep tissue of the cervix, or extend as a surface ulceration over the vaginal mucosa or only up into the uterine canal. The first process is the most dangerous, as it reaches in this way the parametrium and the lymphatics. If there is a tendency to confine itself to the mucosa the growth offers the best possible chance of complete eradication. The vagina becomes involved in three ways:

First, infiltration of the connective tissue beneath the mucous membrane at the vaginal vault. This takes place both in the growths originating on portio and in canal, after the growth penetrates into the cervix, as can be seen in Plate I., and extends to the parametrium lying in contact with the vaginal vault.

Second, Case No. 9 in Table 3: Here there was apparently no continuous connection between the vaginal growth and the nodules, and the only explanation that can be offered is a lymphatic infection taking an abnormal course. Case No. 10 in Table 3: These papillary nodules may be entirely isolated, and at a considerable distance from the cervical tumor, or form a continuous chain from cervix to outlet. Where the former exists the theory of implantation arises as an explanation, and I can offer no objection to its acceptance, believing it to be the most plausible.

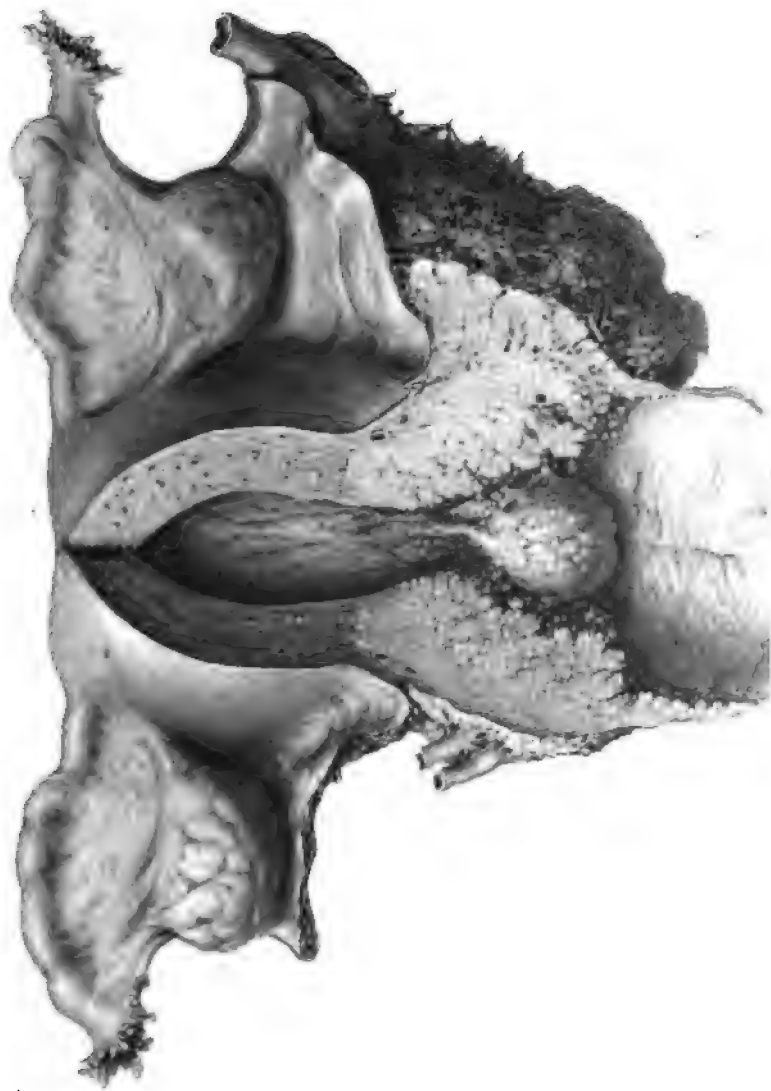
Third, the most deceptive cases are those in which the extension is by direct superficial continuation of the growth. Macroscopically the growth appears confined to the cervix, and one is able to determine only microscopically its vaginal demarkation. The affected portion of the mucous membrane may show only a slight thickening, with perhaps a few scattered areas of superficial ulceration. On examining these specimens with the microscope the normal squamous epithelium is found replaced by a typical epithelioma. In one case I found the vaginal limits of the growth from one to one and a half inches from the cervix, and only about four times the normal thickness of the mucous membrane. There seemed to be no tendency beyond the cervix to penetrate the deeper tissues. In this same case a similar extension of the growth had taken place upward into the uterine body, and only in a few places could the normal mucosa be found. Although the upward extension is of a rare occurrence, it gives an important operative suggestion.

Cancer of the Cervix.—The direction of invasion in these growths is, first, laterally into and through the walls of the cervix; second, upward into the uterine body; third, downward on the vaginal mucous membrane.

Williams states that as a rule the disease extends in a horizontal line outward through the walls, but rarely downward toward the vagina and upward into the uterine body.

The lateral invasion is the most dangerous with which we have to deal in any attempt at complete eradication, as the disease comes in contact in this way with the bladder and the parametrium. Any involvement of the former renders opera-

EXPLANATION OF PLATE I.—*Adeno-carcinoma of the cervix*, demonstrating: 1st, Penetration of entire wall of cervix; 2d, lateral extension of growth in parametrium along lymph vessels corresponding to *a* and *a'* in Plate (p. 852); 3d, exemption of body and broad ligaments—the latter appear in normal thickness above; 4th, extension in submucosa of upper third of vagina; and 5th, production of hydro-ureter from pressure of new growth.





tive procedures questionable, and the latter doubtful. The usual sharp limitation of these growths at the internal os is well known, but there is a common supposition that the same is not true in the downward course. This fallacy often arises from the neoplasm developing on lips which have been badly torn and become indurated and everted, and one can readily understand how such a condition would give the impression of an involvement of the vagina. In cases suitable for operation the disease is usually confined above by the internal os and below by the lips of the cervix.

Another possibility arises from the occasional existence of isolated secondary nodules in the mucous membrane of the uterine cavity. Whether these are true metastases or implantation of groups of cells from the primary growth on the mucous membrane, or nodules developing independently from that of the cervix, is not proven, but enough cases have been reported to make them of operative significance.

Cancers of the Body of the Uterus.—Carcinomata may extend beyond the uterine body in the following ways:

First, penetration of the walls with implantation of the growth on the peritoneal surfaces.

Second, extension beyond internal os to the cervix.

Third, infection of broad ligaments by the lymphatics or by direct infiltration through the walls.

Fourth, infection of lymphatics of the round ligaments.

Fifth, extension through the mucous membrane to the tube.

Fortunately the tendency of these growths is to remain confined to the uterine body and slowly penetrate its walls. One frequently finds cases showing the muscle everywhere invaded, and even small nodules beneath the peritoneal covering. In fact the whole organ may be degenerated into a malignant mass and yet show no evidence of metastases or disease beyond its limits.

In cancer of the body of the uterus the broad ligaments must be considered, as the chief lymphatic supply passes through them. The lymphatics passing through the round ligaments to the cornu excite an interest from an operative standpoint not mentioned before.

Plate II. is taken from a uterus removed by Dr. H. A. Kelly.

EXPLANATION OF PLATE II.—*Adeno-carcinoma of the uterine body*, demonstrating: 1st. Penetration of uterine walls by carcinoma, showing subperitoneal nodules at left upper corner of figure; 2d, three metastatic nodules in left broad ligament corresponding to lymph channels in *b*¹ in Plate (p. 853); 3d, one metastatic nodule in left round ligament corresponding to lymph channel *c*¹ in Plate (p. 852); 4th, exemption of whole cervix from malignant growth.

It demonstrates three of the points in question: first, penetration of the uterine walls; second, metastatic nodules in the broad ligaments between the tube and ovary; third, metastatic nodule in round ligament.

We have discovered in two of our cases, by microscopical examination, an advance of the growth from the uterus over the surface of the mucous membrane to that of the Fallopian tube. In one the tumor had originated in the cervix, and in the other in the uterine body.

Metastases and Recurrences.—The relationship of the different varieties of cancer of the uterus to their tendency to recurrence and metastases cannot at present be proven with certainty, but our own experience and that of J. Williams suggest that this is an important factor in the ultimate results.

Williams, of London, found in eight cases of epithelial carcinomata of the vaginal portion of the cervix but one case of metastases. Here the growth had invaded the greater part of the vagina, but the inguinal glands were the only ones mentioned as infected. All these cases were caught, except the one just mentioned, in the earlier stages. Orth remarks that the formation of metastases occurs relatively late, this being more especially true of squamous epitheliomata of the portio vaginalis, and then not extensively. The primary growths of the cervix in seven hysterectomies in which the pelvic glands were removed have been found to be squamous epitheliomata, and in only one of these were the glands the seat of metastases, tallying with results of Williams. This one case is particularly interesting, as only one small gland in the parametrium near the cervix was infiltrated, those at the crotch of the iliac vessels being normal.

In some of these seven cases the growth had advanced so far that complete eradication was rendered impossible. This tendency of the disease to remain localized is further substantiated by the autopsy records of the Johns Hopkins Hospital Pathological Laboratory, which show that in thirteen cases of women dying with cancer of the womb five were exempt from metastases.

The glands to be considered with regard to removal during operation can be readily determined by studying the Plate (p. 852), showing the lymphatic supply of the uterus and vagina.

We have discovered another point of unusual interest in regard to these glands—namely, that an enlargement does not always signify a metastatic growth. One is often able to palpate the glands by vaginal or rectal examination, and not



Russell Plate II.

infrequently finds them enlarged, and is at once suspicious of the case being beyond radical cure. This is entirely unjustifiable if the local process is still amenable to radical treatment. This enlargement is due to an increase of the lymphoid elements of the glands, and is often found in glands near the seat of an infection, the infected area being in this case the necrotic surface of the primary growth.¹ In the case illustrated by Plate II. the glands on the lateral pelvic wall were considerably swollen, as well as those higher up in the lumbar region. According to the position of the tumor, this should not have occurred; the microscopical examination showed, however, that this was not due to a deposit of cancerous cells, but a marked increase of lymphoid cells.

Wagner in 1858 made the statement, based upon clinical observation, that "very often swollen glands are mistaken for malignant ones."

In investigating forty-seven cases of cancer of the uterus subsequent to hysterectomy for a period of one to five years,² I found the following results as to the frequency of local return: In nine cases where the disease was limited to the body and the patient recovered from the operation, there have been but two regionary recurrences, and these cases were considered hopeless at the time of operation. In the seven successful operations there is at present no sign of a return of the disease.

Cancers of the uterine body are almost exclusively of the adenomatous type. We have learned that recurrences and metastases must take place, after total extirpation, in or through the broad ligaments, except in cases where there is a direct implantation on the peritoneal surfaces after the growth has penetrated the walls.

After cutting the broad ligament it retracts to the side of the pelvis. This can be well seen during a hysterectomy, then any secondary trouble arising in the broad ligament would be located on the lateral pelvic wall. Carcinomata of the uterine body are the only ones in which we would anticipate such an event to arise. A good example of this occurred in a patient of Dr. Guthrie, of Wilkesbarre, Pa., from whom Dr. Kelly removed a uterus with advanced cancerous disease of the body by vaginal hysterectomy. The patient died some months later with a recurrence which first became evident in the pelvis about the region of the ovary.

¹ In a forthcoming monograph on cancer of the uterus by Dr. Cullen these glands will be minutely described.

² Johns Hopkins Hospital Bulletin, November, 1895.

The results in hysterectomy for carcinoma of the cervix in comparison with those of the body show strikingly their relative malignancy.

In thirty cases in which the operation terminated successfully sixteen have since died of a local recurrence.

Unfortunately we have the microscopical diagnosis in but twenty-two of these cases; eight were found to be adeno-carcinomata, thirteen epitheliomata, and but one malignant adenoma.

The epitheliomata unquestionably, in the majority of instances, originate on the portio vaginalis. The specimens obtained from our thirteen cases, as far as we are able to judge, sustain this assertion, as do also the six cases reported by Williams. They are primarily superficial growths, and the cervical canal is rarely invaded in the early stages, but extend outward and downward in the vaginal mucous membrane. Local recurrences would then be first manifest in the scar at the vaginal vault or on the vaginal mucous membrane. This tendency to remain a surface growth explains also the rarity of metastases in cases suitable for operation.

Cancers of the cervix are almost invariably adeno-carcinomata and must be considered the most dangerous of this variety of uterine growths. Williams, in speaking of these tumors, says: "Unfortunately they take a direction which is calculated to baffle treatment. They extend to either the internal or external os, but rarely pass beyond. The lines of growth are mainly outward and downward in such a direction as to involve the portio vaginalis and vesico-vaginal and recto-vaginal septa, but respecting the mucous membrane of the vagina."

Malignant adenoma is the most infrequent form of these cervical neoplasms. Gebhardt recently made a critical study of all the reported cases and found but six which he could class under this head. Three years have now passed since the one case in our experience was operated upon, and she continues to be in excellent health.

A priori one would expect to find metastases most frequently in cases of cervical adeno-carcinomata, as the invasion is usually in a direct line out to the parametrium where the large lymphatic vessels lie.

This lateral invasion fixes also the point in which we must anticipate recurrences—that is, in the parametrium. Plate I. shows so clearly this point, as well as the relation of the broad ligament to cervical growth, that further explanation is unnecessary.

The recurrences appear as hard, pyramidal masses running off to the pelvic wall beneath the vaginal mucous membrane.

Winter, after a thorough study of the subject, concludes that this form of recurrence is in the great majority of cases due to direct implantation of cancer cells in the pericervical connective tissue. He supports his opinion by a critical review of many undoubted cases of direct implantation. Even though one concede the possibility of such an occurrence, it strikes me as being the most difficult way of explaining a simple problem. The ease with which the parametrium is reached by neoplasms of the cervix, and the doubt, unless a careful microscopical study is made of the specimen, that all the carcinomatous cells have been removed, make me hesitate to accept this theory as so frequent a cause of local recurrences. That implantations occur one cannot doubt from the reported cases.

The concluding remarks in Williams' monograph state so cleverly our attitude in regard to advance in treatment of cancer of the uterus that I quote them verbatim :

"No haphazard and blind procedures will prove of any avail; the only method which can give us a sound and firm basis upon which to build is patient study in the laboratory as well as at the bedside; and although I would in no way depreciate clinical research, yet I cannot help thinking that in the present stage of our knowledge the investigations conducted in the laboratory are far more likely to give us light upon cancer of the uterus, to elucidate the laws which govern its development and growth, as well as those which must rule our methods of treatment."

The practical deductions to be drawn from the preceding study are as follows :

1. Cancers of the vaginal portion of the cervix tend to advance out on to the vaginal walls either superficially or beneath the mucous membrane, and if the case is suitable for operative treatment a wide removal of the vagina is indicated.
2. These growths are usually epitheliomata and have little tendency to metastases. If the local extirpation is complete the prognosis is good.
3. Growths of the cervix are usually adeno-carcinomata, and from their situation are to be considered the most malignant of uterine cancers. The parametrium and bladder are the critical points, and the former should always be removed as completely as possible.
4. Adeno-carcinomata of the body are the most accessible to operative procedures and give the most favorable prognosis.

TABLE I.—ADENO-CARCINOMA OF THE UTERINE BODY.

Date of operation.	Number.	Name.	Disease.	Operation.	Position of growth.	Remote results.
November 28th, 1892.	1691	Mrs. A.	Adeno - carcinoma of fundus uteri associated with myoma.	Supravaginal amputation of uterus. Cervical canal cauterized.	Diffuse growth of fundus.	September 13th, 1895: Patient in excellent health. No sign of recurrence or metastases.
May 10th, 1893.	1970	Mrs. B.	Adeno - carcinoma of fundus uteri.	Vaginal hysterectomy. Uterus ruptured during removal.	Growth in lower part of body. Walls almost completely penetrated.	Breast removed for cancer one year after hysterectomy. October 1st, 1895: No evidence of recurrence. Patient in good health.
February 15th, 1893.	1069 1732	Miss W.	Adeno - carcinoma of fundus uteri associated with myoma.	Supravaginal amputation of uterus.	Diffuse superficial growth in fundus.	October 5th, 1895: Continues in excellent health. Examination reveals pelvis free from any suspicious nodules.
December 4th, 1893.	2436	Mrs. G.	Adeno - carcinoma of fundus uteri.	Vaginal hysterectomy.	The growth is limited to the upper portion of the body uteri, and is still superficial, having only invaded the muscular coat to a slight extent.	August 17th, 1895: No symptoms pointing to regional recurrence of metastases.
July 25th, 1894.	2084	Mrs. P.	Adeno - carcinoma of fundus uteri.	Pan-hysterectomy.	The entire body of the uterus is involved by the new growth, which has penetrated as far as the peritoneal covering. Whether or not there is any involvement of the broad ligaments is undetermined.	May 1st, 1896: Patient in excellent condition. Pelvis free from recurrent growths.
June 20th, 1894.	2833	Mrs. A.	Adeno - carcinoma of fundus uteri.	Supravaginal amputation of uterus. Cervical mucosa cut away.	The growth is limited to the body of uterus, and has only penetrated a short distance into the muscle.	September 12th, 1895: No sign of return of disease. Patient in good condition.
January 9th, 1895.	3256	Mrs. A.	Adeno - carcinoma of uterine body.	Supravaginal amputation of uterus. Cervical canal cauterized with carbolic acid.	Growth limited to upper portion of body uteri.	May 27th, 1896: Patient has marked induration in pelvis about region of ovary, also felt beneath incision. Vagina not involved.

TABLE II.—ADENO-CARCINOMA OF THE CERVIX.

RECURRENCES IN CARCINOMA OF THE UTERUS.

861

Date of operation.	Number.	Name.	Disease.	Operation.	Position of growth.	Remote results.	Date of death.
August 8th, 1894.	2864	A. R.	Adeno - carcinoma of cervix.	Combined vaginal and abdominal hysterectomy.	Growth limited to lower half of cervix, and a good margin of vaginal portion still intact.	September, 1896: No sign of local return. Patient losing flesh.	
June 5th, 1894.	2817	S. A.	Adeno - carcinoma of cervix.	Combined vaginal and abdominal hysterectomy.	The growth involves the lower portion of body and upper portion of cervix uteri and has invaded almost the entire wall, but whether or not it has extended to the broad ligaments is undetermined.	September, 1896: No evidence of local return. Patient in excellent health.	
February 20th, 1895.	3322	A. K.	Adeno - carcinoma of cervix.	Abdominal hysterectomy. April 1st, 1896: Suspicious area vaginal vault cauterized.	Growth extends upward to internal os, and the vagina is slightly involved. The parametrial tissue apparently free from carcinomatous invasion. Lymph glands swollen but not carcinomatous.	May 27th, 1896: Dr. Baker writes that patient is apparently cured of disease, as there are no symptoms pointing to its return.	
November 10th, 1891.	1056	M. B.	Adeno - carcinoma of cervix associated with myoma.	Vaginal hysterectomy.	Whole cervix excavated by necrotic growth.	Recurrence in few months. First noted in vaginal vault as a lateral infiltration.	September 5th, 1892.
February 18th, 1891.	1204	Mrs. M.	Adeno - carcinoma.	Vaginal hysterectomy. Cauterization of left pedicle on account of infiltration laterally.	Growth confined to cervix. Not evident beyond external os.	No evidence of local return November 15th, 1896. No enlargement of glands in pelvis or abdomen. Patient in good health.	
November 10th, 1892.	1661	C. T.	Adeno - carcinoma associated with four moes. pregnancy.	Combined vaginal and abdominal hysterectomy.	Report lost	Recurrence in vaginal vault. Perforation of bladder and rectum by disease.	May 1st, 1894.
October 10th, 1893.	2582	S. L.	Adeno - carcinoma.	Vaginal hysterectomy.	The growth has extended upward to the internal os and laterally out into the broad ligaments.	Recurrence in vaginal vault. First noticed laterally beneath mucosa.	August 15th, 1894.
March 5th, 1894.	2625	S. C. H.	Adeno - carcinoma.	Vaginal hysterectomy.	Adeno-carcinoma of the cervix. Secondary involvement of the uterine wall, mucosa, either uterine cornu, and mucous membrane of tube.	Recurrence in vaginal vault. Small nodules beneath mucosa in line of incision.	August 15th, 1894.

TABLE III.—EPITHELIOMA OF THE CERVIX.

Date of operation.	Number.	Name.	Number of case.	Disease.	Operation.	Seat of growth.	Remote results.	Date of death.
January 31st, 1894.	2555	Mrs. R.	1	Epithelioma of cervix.	Vaginal hysterectomy.	Growth confined to portio vaginalis.	Last examined in October, 1896. No evidence of local return or recurrence. Sugar found in urine.	
February 15th, 1894.	2560 2895 2933	Mrs. W.	2	Epithelioma of cervix.	Vaginal hysterectomy.	Slight involvement of vaginal vault on left side, but the growth apparently entirely removed. No extension beyond cervix laterally.	Nodules in vaginal vault first evidence of recurrence.	November, 1894.
February 17th, 1894.	2591	Mrs. J.	3	Epithelioma of cervix.	Vaginal hysterectomy. Uterus ruptured at internal os during operation.	The growth extends upward into the body of the uterus to within less than one centimetre of the fundus. Broad ligaments on either side involved, as is also vaginal vault.	Local return appeared, within short time after leaving hospital, in scar at vaginal vault.	June 3d, 1894.
March 3d, 1894.	3024	Mrs. O.	4	Epithelioma of cervix.	Vaginal hysterectomy.	Entire cervix and part of body of uterus involved. Extension to vagina and right broad ligament.	Recurrence, almost immediate, in vaginal vault and laterally.	November 5th, 1894.
March 5th, 1894.	2788	Mrs. E. H.	5	Epithelioma of cervix.	Vaginal hysterectomy.	Extension to vagina and left broad ligament.	Recurrent nodules found along line of incision few months after leaving hospital.	November, 1894.
November 27th, 1892.	1646	F. C.	6	Epithelioma of cervix.	Vaginal hysterectomy. December 12th, 1893: Prolapsed Fallopian tube excised.	Advance noted over vaginal mucous membrane. Growth has invaded the endometrium of the body to a slight extent.	Local return, first in vaginal vault.	October 18th, 1898.
December 17th, 1892.	1723	Z. S.	7	Epithelioma of cervix.	Vaginal hysterectomy.	Circumscribed growth on vaginal portion of cervix.	Local return in scar, in form of ulcerated area about one centimetre in diameter. This area dissected out and thoroughly cauterized. Patient at present shows no evidence of return of disease.	

Novem- ber 8th, 1893.	2394	Mrs. H.	8	Epithelioma of cervix.	Vaginal hysterectomy.	Growth originates at junction of vaginal and cervical mucosa, and extends upward to the internal os. Laterally it does not extend beyond the cervix.	Last report August 20th, 1895. No return.	
Novem- ber 25th, 1893.	2415 2932 3254	Mrs. M.	9	Epithelioma of cervix.	Vaginal hysterectomy. Upper third vaginal mucosa removed with uterus.	The growth involves vaginal mucosa as far as cut margin of portion removed. Laterally the parametrium is probably involved. One circumscribed nodule, size of cherry, situated over internal end of urethra, apparently beneath mucous membrane, excised.	Local return first manifested itself as small nodule on posterior vaginal wall at a considerable distance from scar.	February 1st, 1896. Pneumonia.
Decem- ber 11th, 1893.	2452	Mrs. D.	10	Epithelioma of cervix.	Vaginal hysterectomy.	The growth involves the entire cervix, and has extended into posterior vaginal wall for distance of four centimetres. Parametrial tissue on either side also involved. The vaginal extension is in the form of papillary nodules on surface of mucosa. Some seen independent from primary growth.	Patient in excellent health, with no sign of regionaly return or metastases.	
August 22d, 1894.	2990	Mrs. Z.	11	Epithelioma of cervix.	Vaginal hysterectomy. Ureter cut during operation; afterward dissected out and end sutured into bladder.	Growth occupies posterior cervical lip, especially the left side, and extends upward eight millimetres within the external os. It has invaded the vaginal portion of the cervix to within one millimetre of the cut surface.	April 1st, 1896: Patient, upon examination, found free from recurrent growth. No urinary difficulty.	
Febru- ary 17th, 1894.	2572	Mrs. C.	12	Epithelioma of cervix.	Vaginal hysterectomy.	Growth everywhere surrounded by good margin of sound tissue before cut surface is reached, and is confined to vaginal portion of cervix.	September 17th, 1895: Pro-lapsed tube found caught in scar of incision. No sign of recurrence.	May 10th, 1895.
October 18th, 1894.	3114	Mrs. E.	13	Epithelioma of cervix.	Abdominal hysterectomy, incomplete.	Growth apparently extended to either vaginal fornix; also involved the body of the uterus to within four centimetres of fundus. Anteriorly and on left side extended to cut surface, involving the broad ligament.		

5. Hysterectomy for carcinoma of the body should include a wide removal of the broad ligaments, the tubes and ovaries, and round ligaments.

6. The pelvic glands should be studied and enucleated, if possible, in every case of cancer of the uterus.

7. On account of the impossibility of determining the extent of the disease, as complete a removal of all the organs and tissue which may become involved is demanded in every case. Hence supravaginal amputation of the cervix for cancerous changes in the body is as unjustifiable as amputation of the cervix for malignant disease.

8. The best methods yet devised are those of J. G. Clark and Emil Reis, as these offer the best opportunity for wide dissection.

9. A preliminary microscopical diagnosis is always advisable, as it gives valuable operative suggestions in regard to the critical points.

10. The danger of implanting cancer cells on exposed raw surfaces is undoubted, and every precaution should be taken to obviate its occurrence.

1503 MADISON AVENUE.

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MELANO-SARCOMA OF THE FEMALE URETHRA : URETHRECTOMY; RECOVERY.¹

BY

CHARLES A. L. REED, A.M., M.D.,
Gynecologist to the Cincinnati Hospital,
Cincinnati, Ohio.

THERE is, I am sure, no occasion to apologize for bringing to the attention of the Association the details of a case of melano-sarcoma of the female urethra—a case which, so far as a reasonably comprehensive research of the literature indicates,

¹ Read at the ninth annual meeting of the American Association of Obstetricians and Gynecologists, at Richmond, September 23d-24th, 1896.

is the first of the kind to be placed upon record. Sarcoma of even the ordinary varieties involving the urethra are exceedingly rare, there being, according to Ehrendorfer, but two upon record—viz., one by Biegel in 1875, the other by Ehrendorfer himself in 1892. In neither of these cases, however, were melanotic features the distinguishing characteristics. I mention this fact, not to emphasize my priority in either the observation or publication of this condition—a matter of no essential importance—but to indicate the extreme rarity of the condition manifested in the following case :

Mary E. Y., aged 64, single, was brought to my private hospital by her family physician, Dr. Joseph Morris, of Columbus Grove, O., December 3d, 1895. The patient had had no serious previous illness. There was no history of tuberculosis or syphilis in the family. The virginal condition of the genitalia precluded the supposition of venereal infection of any character. Her general health was good, although there was some emaciation about the neck and breasts, the latter of which were flabby—changes no doubt incident to age. Careful examination revealed no diseased conditions about either the lungs or heart. Careful palpation and percussion of the abdomen yielded negative results. There was no complaint of disturbance of either the gastric, renal, or other functions. The urine was normal in color and quantity, and had a specific gravity of 1014.

■ About eight months previously—i.e., in April, 1895—she began to notice some pain accompanied with blood on micturition. This was shortly followed by a more or less constant pinkish discharge from the genital fissure. The self-examination which followed revealed a tumor at the meatus urethræ. This tumor continued to increase in both size and hemorrhagic tendency until she was prompted to consult Dr. Morris, who curetted the neoplasm thoroughly and treated it with styptics. This brought apparent recovery, which endured but for only a short time, when the mass reappeared with granulations of greater exuberance than previously. The patient, however, declined to accept further operative interference until she was brought to me. At that time I found a black, lobulated, and eroded mass, about three centimetres in diameter, separating the labia majora. The orifice of the urethra was in the very centre of this mass. A careful vaginal examination was not made at the time, as the virginal structures, present in their integrity, rendered such an exploration very painful.

The operation was done the next day, December 4th. The

small blade of a Jones speculum—an excellent self-retaining perineal retractor—was introduced. The patient being in the Simon posture, the urethra was by this means exposed in its entire length. A longitudinal incision was made through the mucous membrane, along the dorsum of the urethra, from a point where the presenting part of the mass was eroded, to the base of the bladder. Another incision through the mucous membrane was made at right angles to the foregoing at a point far enough above the eroded mass to insure healthy tissue. The mucous membrane was then dissected back in two lateral flaps and the urethra was enucleated. The urethra was found to be distinctly conical in shape, the base of the cone being at the meatus, the apex at the bladder. Care was taken to dissect out the canal to a point manifestly above the zone of malignant involvement. When this point was reached, but a slight distance from the bladder, the canal with its neoplastic walls was excised. The cut margin of the cystic segment of the canal was seized at various points in its circumference by Kocher forceps, brought down by gentle traction, and fixed by interrupted sutures of silkworm gut to the vaginal mucous membrane. A self-retaining catheter was inserted and the patient was put to bed. The sutures were removed on the eighth day; the catheter was dispensed with on the twelfth day. The patient sat up on the fourteenth day, when she found that she could retain her urine and void it at will. She was dismissed December 21st, entirely healed.

She remained in good health until the 1st of July following—seven months—when she again summoned Dr. Morris because of some stomach symptoms. He found her suffering from persistent vomiting and with a large mass in the epigastrium. This mass rapidly increased in size until it occupied all of the area between the navel and the breast bone, its nodular characteristics becoming more and more pronounced. She died of exhaustion July 14th, 1896, having had no recurrence whatever of the urethral trouble. No autopsy was permitted.

The specimen removed was a dark mass, trilobar and conical in shape, being about two centimetres in diameter at its base and about twenty-five millimetres in diameter at its apex. Its longitudinal diameter was, approximately, three and a half centimetres. It had a distinct investment capsule of loose connective tissue, which was broken at the margin of the eroded base. The base of the tumor was pierced in its centre by the meatus urethræ, was eroded, black, and presented the appear-

ance of a diffuse ecchymosis. This dark coloring was found, on section of the tumor after hardening, to depend upon diffuse pigmentation, which, however, was more marked in one lobe than in the remaining two. The cells are of the small round variety, although in some parts they are of a larger size. The stroma is very slight, while in some parts it is practically absent. Some pigmented cells may be found interspersed throughout the growth, while in one lobe the non-pigmented cells are gathered in clusters, each cluster being surrounded by heavy deposits of pigment, most of which is found in cell bodies, but much of it is apparently enmeshed in the slender fibrillæ of the stroma. A cross-section of both the urethra and of Skene's follicles reveals the epithelium of the mucous membrane of each practically undisturbed. The investment capsule can be distinctly traced and consists of connective tissue, the inner surface of which alone presents slight evidence of round-cell invasion.

REPORT OF THREE CASES OF UTERINE FIBROIDS COMPLICATED BY PREGNANCY.¹

BY

M. ROSENWASSER, M.D.,
Cleveland, O.

(With two illustrations.)

PREVIOUS to the advent of abdominal surgery and of aseptic midwifery the management of pregnancy complicating fibroids was most unfortunate. Of two hundred and twenty-eight cases of labor complicated by fibroids collected by Gusserow,² more than one-half of the mothers and two-thirds of the children died. The assumption that many of these deaths may have been due to meddlesome interference on part of the obstetrician is contradicted by Süsserot's³ carefully compiled tables. Among one hundred and forty-seven such cases of labor collected by him, seventy-eight mothers died. Of the sixty-one mothers requiring manual or instrumental aid, thirty-three

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

² "Cyclopedia of Obstetrics and Gynecology," vol. ix., p. 316.

³ Ibid., p. 314.

died. The remaining forty-five deaths were therefore among the eighty-six cases not interfered with. The labors allowed to go to a natural termination were undoubtedly those in which there was the least hindrance to delivery, and yet they ended as fatally as did those subjected to delay, injury, and sepsis.

In the more recent statistics collected by Stavely¹ there are five hundred and ninety-seven cases in which no interference occurred before labor. Of these two hundred and twenty, or thirty-seven per cent, died. This reduction in the mortality is owing to improvement in technique within the last ten years. Among three hundred and seven cases reported as having aborted the death rate was twelve per cent.²

It would seem, therefore, that surgical interference, either by myomectomy or by hysterectomy, is followed by more favorable results than are gathered from the statistics above quoted. The number of cases thus treated is, however, as yet insufficient to enable us to formulate any fixed rules for general guidance. Each case must be considered on its own merits and must be managed in accordance with the best interests of the mother and, where possible, also of the child.

Wherever the location of the tumor is not likely to interfere with delivery, or its not too rapid growth will admit of delay until after the viability of the child, a conservative course is clearly indicated. Myomectomy in the interest of the child is justifiable in cases in which dystocia would become a strong probability. At or near term, in event of obstruction to delivery, suprapubic hysterectomy is probably the safest course.

The loss of mothers ought not to exceed ten per cent. The children ought nearly all to be saved.

Dührssen's³ proposition to deliver the child by vaginal Cesarean section,⁴ and then to preserve the uterus or remove it, as the nature of the case might indicate, has yet to be put to the test of experience.

If the fetus must be sacrificed the choice lies between abortion and hysterectomy. It is my belief that the dangers of the latter are less than those of the former; yet here is the point on which honest opinions will differ. To my mind the accidents attending hysterectomy are more controllable than are the complications of an abortion, in which the hemorrhage may become fatal from inability of the uterine muscle to contract,

¹ Johns Hopkins Bulletin, March, 1894, p. 33.

² Ibid.

³ "Der vaginale Kaiserschnitt," Berlin, pp. 27-33.

or the fibroids may slough and lead to sepsis. In some cases an abortion is impracticable because the cervix is beyond reach.

We have all seen subperitoneal fibroids of the uterus, especially smaller tumors, that have not only not been a hindrance to delivery, but have apparently disappeared after labor. Such can hardly be considered as complications. Of the three cases here reported, the first was a multinodular tumor consisting of large subperitoneal and interstitial nodes. The second was interstitial, extending from the lower uterine segment into the broad ligament. The last was also interstitial, occupying the entire lower uterine segment.

The first case was that of a woman, 41 years old, who was seen by me in October, 1891. She had been married twelve years and had never been pregnant. She had enjoyed good health until about three years ago, when her menstruation became more profuse and of longer duration, sometimes continuing for two weeks. Two years ago she began to feel pain in the right inguinal region, and discovered a lump the size of a hand; this lump continued growing. Ten months ago she noticed a growth on the left side, with pain and gradual enlargement. The pain on the left became the most severe. The suffering had never been excessive. She had been able to be about and do her work until very recently. Her menstruation had ceased on May 1st, 1891, and did not recur. The rapid growth of the tumor and the distress from fulness of the abdomen had finally caused her to seek relief.

The abdomen was enlarged to the size of an eight months' pregnancy. Irregular nodular tumors could be seen through the abdominal wall, reaching to the right hypochondrium on one side and four inches above the umbilicus on the other. The tumor on the right was round, smooth, hard, not fluctuating, not painful; several smaller lumps were attached by pedicles to the larger. The tumor on the left was round, soft, fluctuating. There were no movements, no contractions, no fetal or other sounds. The breasts were not enlarged, the areola not pigmented. The vaginal mucous membrane was bluish; the cervix short, velvety; the tumor projected all about the cervix, more especially on the left, and moved with it. The patient would not for a moment entertain the possibility of a pregnancy complicating her tumor, but thought she was undergoing the change of life. Her distress was such that she insisted on any operation that offered speedy relief. Diagnosis:

Double ovarian tumor with probable pregnancy, or fibroid with same.

Operation October 17th, 1891. Incision eight inches. Tumor multinodular fibroid of uterus containing five and one-half months' fetus and placenta. Supravaginal amputation. Stump secured by serre-neud. No unusual difficulties, no shock. The tumor consisted of six large interstitial and two subperitoneal nodules, the latter attached to the uterus by broad pedicles. Weight of tumor, exclusive of amniotic fluid, twelve pounds. On the day following the operation the pulse



FIG. 1, CASE 1.

was 78, temperature 99°. Urine passed freely. The next day a rapid development of septic symptoms. Death fifty-two hours after operation.

Autopsy.—Pus in the line of incision, over the surface of the intestines and omentum. Half a pint of pus in the pelvic cavity. Upon careful inquiry it was subsequently discovered that the towels in which the intestines had been enveloped while the tumor was being delivered had not been sterilized. The infection came from this source. The fatal result was due to avoidable accident, not to technique.

The afterthought, why would not an abortion have been pre-

ferable in this case, must be met by the fact that the character of the tumor was not positively made out, and that in case of a pregnancy complicated by ovarian cystoma it was possible to save the child after ovariectomy. Should the tumor prove to be a multinodular fibroid, hysterectomy was deemed more safe than abortion. My disappointment over the deplorable outcome, for personal reasons as well as for the sake of the record, is as keen to-day as at the time of its occurrence.

I first saw the second case, in consultation with Dr. Peskind, in October, 1893, when she was four months pregnant. She was about 34 years of age, had been married twenty years, and had had three children. For two years previous to the present pregnancy she had suffered from profuse menstruation lasting five or six days, attended by painful labor-like pains. The tumor was hard, occupied the smaller half of the pelvis and the right iliac fossa, being drawn up by the pregnant uterus, which occupied the left pelvis and corresponded in size to a four months' pregnancy. It did not seem likely that the tumor would obstruct delivery. Advised non-interference. She was delivered at term, without difficulty, of a healthy child. On examination three months after confinement the tumor could not be found. It seemed to have been involuted with the uterus.

Nine months after childbirth, December 10th, 1894, the patient came to the hospital complaining that for three months she had been having profuse hemorrhages at intervals of two or three weeks, lasting six days, with constant pain in the back, loss of appetite, insomnia. She was quite anemic, emaciated, with a pulse of 112. The tumor had again developed so as to reach an inch above the pubes, and extended out into the base of the right broad ligament. After ten days' use of strychnia and rest the pulse came down to 90, but her appetite and pain remained as before. Hysterectomy advised and accepted.

Operation December 20th, 1894. Trendelenburg position. Incision from umbilicus to symphysis. No complications. Total hysterectomy. Silk ligatures. Stumps turned into broad ligament. Latter closed, shutting off peritoneal cavity completely. Abdominal incision closed. No flushing, no drainage, no shock, no vomiting. Excepting small stitch abscess, her recovery was uneventful. Subsequent symptoms of menopause, and slow recovery from extreme anemia.

The third case, a school teacher, was kindly referred to me

by Drs. Folkens and Parker. She was 37 years old and had been married twelve years, having had two miscarriages soon after marriage. She had a very healthy appearance, inclined to be stout. Her first knowledge of a tumor was gained after difficult micturition three and a half years ago. For the removal of the tumor a celiotomy had been performed in May, 1893. The tumor, a fibroid of the uterus, was said to have been anchored fast by numerous and dense adhesions to intestines. No attempt was made to remove it. The right ovary was removed. The left could not be found on account of universal adhesions. Recovery was delayed by a mural abscess.



FIG. 2, CASE 3.

The tumor had not increased since the operation until after cessation of the menses four months ago. Now it is rapidly growing larger. There is evening vomiting. Attempts have been recently made to bring on an abortion, but have failed. The cervix is small, pressed tightly against and behind the symphysis. A round, resilient tumor fills the pelvis and rises into the abdomen as far as the umbilicus; most resistant in the posterior cul-de-sac; not nodular, but smoothly rounded. Arterial bruit audible. No movement, no fetal heart sounds. Patient insists on the radical operation; she is unwilling to take any other chances.

Operation December 23d, 1895. Trendelenburg position. Incision three inches beyond the umbilicus, partly through the old cicatrix. Uterus rounded, non-adherent. Delivered through the incision, and the upper end of the incision closed. Pregnancy in the upper part of the uterus, tumor in the lower. The right appendage is missing. The right upper broad ligament constitutes one huge vein, which is doubly ligated and cut. Considerable recurrent hemorrhage from the dissected bladder flap. A few intestinal adhesions are found low down. Release and close weak points of gut wall. The uterus was amputated according to Baer's method. The peritoneal cavity was completely shut off. No flush or drain. A weak spot in the old cicatrix (ventral hernia) was excised and the abdominal incision closed. No shock. Recovery uneventful.

On opening the anterior wall of the specimen a four months' fetus was found intact in its membranes. The placenta was attached within the left half of the uterus. The tumor occupied the lower segment of the uterus and cervix. It was somewhat edematous, with small spiculæ of lime salts between the capsule and tumor proper.

The location of the tumor and the inaccessibility of the cervix precluded any attempt at abortion with reasonable hope of success. My advice to the patient was to postpone her operation until after viability of the child, which seemed to me to be eminently proper. She, however, was firmly opposed to further delay and the slightly additional risk. She left me the alternative of operating early myself or of abandoning the case to somebody else to do it. Believing, as I do, that a woman has the right to decide for herself in a matter involving danger to life, I consented to do the operation.

722 WOODLAND AVENUE. _____

TUBAL PREGNANCY WITH RUPTURE OF TUBE:

OPERATION AND RECOVERY.¹

BY

WALTER COLFAX MATTHEWS, M.D.,
Bellows Falls, Vt.

(With one illustration.)

MRS. H., aged 23. Previous general health not robust, she being of a neurotic temperament. Menstrual flow rather irregular; has always since puberty suffered from periodical attacks

¹ Read before the joint meeting of the Connecticut River Valley and Cheshire County Associations.

of migraine. Has been married six years (nullipara). First seen May 19th, when she stated that she had not menstruated for three months, but was complaining of severe headache, cramp in bowels with marked soreness, and symptoms of beginning menstrual period; and on the following day, May 20th, she began to flow profusely. She gave the following history: Has had recurrent attacks of severe pain in lower portion of abdomen, with more or less spasm of abdominal muscles, for the past two months; persistent headache and attacks of vertigo. Upon inquiry she stated that she had suffered no nausea nor vomiting, and noticed no change in breast nor enlargement of abdomen other than bloating.

I suspected disease of the uterus or its appendages, and suggested a vaginal examination; but in this the patient did not acquiesce, as she was flowing quite profusely. Manual examination over the abdomen elicited dulness and enlargement over the right side in region of the Fallopian tube and ovary. These facts came to my notice while attending another member of the family, and, as she had no marked symptoms nor increase of pain and was still flowing, thorough examination bimanually was deferred until about two weeks later. On June 3d, the day appointed, while I was at the house and before an examination had been made, patient, while sitting quietly in her chair, was suddenly seized with pain in the abdomen of such severity as to bend her double. She collapsed immediately, face became livid, pulse very rapid and irregular, pain continued. As I had an appointment for this hour that could not be deferred, I gave her a hypodermatic of morphine, one-quarter of a grain, which seemed for a little time to lessen the severity of the pain, and left her, promising to return as quickly as possible. On my return, two hours later, I found no improvement whatever and patient was in agony with the severe pain. In my absence she had what the family called a convulsion, with a total loss of consciousness lasting for about an hour. They became so much alarmed that they summoned a brother practitioner, who at the request of the patient's husband kept the case until the afternoon of the following day, when I was recalled. I found her still in collapse, pulse 150 or 155 and irregular, temperature subnormal. Facies: extreme pallor, lips white, pinched expression about nose; mind clear, but patient was restless and continually throwing her arms, calling for air and asking to be fanned. Upon examination abdomen was found quite distended, with marked dulness on large proportion of right side

and very sensitive to touch. Bimanually, fluctuating mass in right side which protruded into vagina. Pain, which had been excruciating during night and portion of forenoon, had partially subsided. There had been total suppression of urine since patient's sudden attack on the previous day. I was not exactly certain as to the nature of the trouble, but taking into consideration the symptoms—rapid pulse, subnormal temperature, collapsed condition—and every symptom pointing to internal hemorrhage, I at once advised exploratory laparotomy as the only means of saving the patient's life.

Abdomen was cleansed with usual solutions, packed with sublimate gauze, active stimulation was resorted to, and at 4:30 patient was on the table, thoroughly anesthetized, when, assisted by Drs. Allbee and Gorham, the operation was performed by me. Incision was made in median line, and entrance to the peritoneal cavity was followed by a gush of fresh blood. Blood and clots poured forth from peritoneal cavity in great quantities, some of the clots being dark. Upon passing my hand inside of the cavity I found, low down, masses of placenta and dark blood clots. The uterus was small and normal in consistence. The right tube was enlarged to a diameter of nearly an inch at its uterine end, and, a distance of one and a half inches from this point, was ruptured directly across. Attempting to clamp the ruptured end of the tube, I found it so friable that my clamp crushed it and did not hold effectually, consequently the clamp was applied close up to the uterus and encroaching slightly upon its lateral aspect. This procedure controlled the hemorrhage. The peritoneal cavity was irrigated with sterilized water at a temperature of 110° and freed from all clots and débris. Iodoform gauze was then packed firmly about the ruptured stump, a glass drainage tube was inserted to the bottom of the pelvic cavity, the incision closed with one row of stitches, and clamp left protruding from the abdominal wound. The operation consumed twenty-five minutes, and during this time her condition could hardly have been worse. Twice she was thought to be dead by both my assistants and myself. Repeated hypodermatics of strychnine, nitroglycerin, and brandy were given and artificial respiration resorted to. She rallied badly, and the loss of blood was so great that she had repeated attacks of syncope. The day following her condition was so bad that I injected one and a half pints of normal saline solution into the left median basilic vein. Half an hour after this procedure she dropped into a state of

collapse, pulse irregular and rapid, the heart sounds being distinctly audible across the room. She became cyanosed, the extremities grew cold, and she presented every appearance of approaching death. In my opinion these symptoms were caused by a too rapid introduction of the fluid, the weakened heart being unable to bear the sudden increase of pressure. Hypodermatics of strychnine sulphate, nitroglycerin, and brandy were again resorted to, hot bottles were placed about the patient, and she gradually rallied. Her condition was well-nigh hopeless for three weeks after the operation. Pulse remained rapid and for two weeks could not be found in radial vessels. Nausea and vomiting were exceedingly persistent; the patient took champagne only for the first three days, being unable to retain nourishment of any kind. Bowels were very irritable and no nourishment could be retained by rectum. Diarrhea followed on the second day and persisted for several days with severe tenesmus. There was constant dribbling of urine, and for two weeks after the operation repeated attacks of syncope. A severe cough developed at time of rupture of tube, which persisted for three weeks, being of such severity that, when taken with an attack of coughing, nurse and assistant were obliged to hold the head and feet and steady the clamp which was protruding from the abdominal incision. Examination revealed a severe bronchitis. All forms of cough medicine, with the exception of compound ammonia muriate tablets one every two hours, were obliged to be restricted on account of condition of the stomach. Strychnine sulphate one-fortieth of a grain, and nitroglycerin one-hundredth of a grain, were given alternately every two hours, and during attacks of syncope were repeated oftener with brandy or whiskey. Oozing of blood began from the abdominal wound, also from vagina, on the sixth day. Dressings were removed and cavity irrigated thoroughly with normal saline solution as warm as the hand could bear. This procedure was repeated as often as dressings became stained. The last portion of iodoform gauze packing was removed on the sixth day and as much as could easily be packed through the glass drainage tube replaced. Oozing gradually subsided after the clamp was slipped off on the tenth day. The movements of the patient in coughing and constantly turning were, no doubt, the cause of the greater part of the oozing.

Her mental condition was something alarming. As soon as night was reached she was constantly in a state of delirium,

get out of bed with an idea of jumping out of the window. Condition was such that I dared not give anything stronger than sulfonal or trional, and that in small doses often repeated. Occasionally hypodermatic of morphine sulphate, a quarter-grain, would ease pain in feet and quiet restlessness for a short time, but all sleep for the first week was in short naps. Thirst was excessive and lasted for several days.

On the fourth day patient complained of numbness and pain in feet and legs; swelling rapidly followed, which extended to



the knees. Temperature, which until this time had not been above 100°, began gradually to rise and reached on the tenth day 102½° F. Toes and feet turned dark to above ankles, and as the circulation gradually improved a distinct line of demarcation formed just over the instep, and dry gangrene became thoroughly established in spite of everything that could be done. Feet and legs were rubbed constantly; heat was applied in form of wet cloths saturated in alcohol and hot water; and, by the advice of one authority, I tried for a time cold applications, but as these were not well borne dry flannels were placed over the

feet, a coil of rubber tubing applied, and a circulation of hot water kept constantly through coil, which, I think, gave as good results as anything. At the same time patient complained of hands feeling in the same manner, and declared that they were developing the same condition. After a few days swelling in legs subsided, but pain was incessant. As the patient's condition was such that amputation was out of the question, it was deferred until August 12th, when, assisted by Drs. Allbee and Whitman, I removed both feet, performing Chopart's amputation. Patient stood the operation well, rallying with little or no shock, and upon the following day was sitting up in bed. As the sloughing following the gangrene involved the soft parts back of the tarsal-metatarsal articulation, and there was left quite a large granulating surface on both feet, also a large place on bottom of right foot, skin-grafting was performed two weeks previous to the amputation, hoping by this procedure to cover these granulations with healthy skin, which would allow this portion to be used for flaps, so as to save as large portion of feet as possible. Thiersch's method of grafting was employed and sixty grafts were used, but, as the weather was at that time extremely hot, few of the grafts lived. In order to save the ankle joint, I was obliged to allow for granulation to cover the heads of the astragalus, as the flaps were not long enough.

One very important point to which I wish to call your attention is the dressings used on the stumps. After cleansing thoroughly I applied plain sterilized gauze saturated with bovine, and the result was marvellous. Granulations grew with a rapidity I have never seen before. Abdominal incision closed entirely at about the sixth week. Patient's general condition is good; she has gained flesh very rapidly since the amputation of the feet, and now states she has never been as fleshy as at present.

In closing this paper I wish to call your attention to the symptoms which in most cases will put the practitioner on the alert. 1. Sanguineous flow of greater or less persistency. 2. Occasional gushes of blood, occurring without assignable cause and disappearing without treatment. 3. Iliac pain, sometimes extending down the thighs. 4. Paroxysmal pelvic pain. 5. Symptoms of abortion attended with expulsion of pieces of decidua without expulsion of fetus. 6. Recurrent pelvic inflammations suddenly developing. 7. As the fourth month is reached, symptoms of pressure as if from a retroverted gravid

uterus; frequent micturition, etc. These symptoms engrafting themselves upon the ordinary signs of normal pregnancy should excite the suspicions of the ordinary country practitioner and prompt a thorough examination of his patient, by which means a positive diagnosis can often be made.

BELLOWS FALLS, VT.

SPONTANEOUS RUPTURE OF UTERUS DURING LABOR AT TERM,

WITH SPECIMEN.¹

BY

B. M. HYPES, M.D.,
St. Louis, Mo.

(With one illustration.)

THROUGH the kindness of my colleagues, Drs. Wichmann and Meisenbach, of St. Louis, I am enabled to present this interesting history and unique specimen.

Mrs. O., aged 31, of German parentage; general health good previous to birth of first child; no history of any constitutional disease. About one year after marriage, aged 26 years, she was delivered of a seven and a half months' child, which lived but a few minutes. This labor was easy, lasting about six hours. The midwife in attendance failed to get the after-birth, which was removed by the family physician, twenty hours after the birth of the child, by means of his hand and the curette. She then suffered for six weeks with a severe metroperitonitis. From this time her health remained impaired, and for the next few years she was a sufferer from general debility, impaired digestion, and a "sore spot" in the hypogastrium. Four years from the birth of her first child she again became pregnant. During gestation her general health was much improved. She exhibited no functional disturbances, her only complaint being of this "sore spot" over the fundus of the uterus and to the right of the median line.

Labor pains began September 16th, 1895, at 10 P.M., at full term. The family physician, Dr. Wichmann, was called;

¹ Read at the annual meeting of the American Association of Gynecologists and Obstetricians, at Richmond, September 22d-24th, 1896.

found labor in progress, vertex presentation, with normal condition of mother and child. The pains being slight and progress slow, at 2 A.M. September 17th he gave a dose of morphine and went home. This was the only medicament used in the case. At 9 A.M., upon his return, he found the patient comfortable, with occasional slight labor pains. He left the house, with the injunction to call him when signs of labor became pronounced. Patient remained quiet during the day, relished her meals, and at 2 P.M. lay down for a sleep. Suddenly at 3 P.M., as described by the husband, she was seized with violent vomiting, followed by the most excruciating pains in



her abdomen, associated with rolling and tossing in bed, gasping for breath, faint feelings, pallid face, and rapid exhaustion—in short, the usual symptoms of abdominal shock. The family physician was at once sent for, and upon his arrival, at 4 P.M., found her in complete collapse with convulsive seizures. The symptoms, with vaginal and abdominal examination, revealed to him this dreadful condition: the presenting part receded, the womb empty, and the child plainly felt in the abdominal cavity—the patient had suffered spontaneous rupture of the uterus. He at once despatched for surgical aid, but by the time the surgeon, Dr. Meisenbach,

arrived, the patient was moribund. Still, with the hope of saving the child, celiotomy was hastily performed, and the child, which had escaped entirely into the abdominal cavity, was extracted from a mass of blood and amniotic fluid. It had ceased to live, and continued efforts at resuscitation failed to cause it to breathe. The child was a fully developed male, weighed six pounds, and was eighteen inches in length.

The uterus, when removed from the body, presented the following conditions: A rupture through fundus superiorly, extending from half an inch from the entrance of one tube to an equal distance from the entrance of the other; the walls at the place of rupture were comparatively thin; placenta located at middle third of the uterus, anteriorly and to the right, where the walls were much thickened; the vaginal portion of the cervix was almost obliterated, as at term, and dilated for the ready admission of two fingers; lower zone of uterus exhibited no thinning or formation of Bandl's contraction ring; no disease of tubes, ovaries, or placenta.

Microscopical examination, made soon after rupture, revealed fatty degeneration of tissue at point of rupture.

The points of unusual interest in this case are the cause of the rupture and its location at the fundus uteri.

Since the classic treatise of Bandl in 1875 the trend of professional opinion certainly favors uterine contraction, associated with dystocia, as the most frequent cause of spontaneous rupture of the uterus during labor at term. With this theory no fault is found. Great credit is due Bandl for his acumen in studying the changes which the uterus undergoes in labor, and the gratitude of the profession and of the whole world is due him for the many lives saved as the result of his teachings and writings. The criticism to be made is that writers and teachers, in their earnest desire to impress the importance of this one cause, should not ignore other causes. In several of our recent American publications—most excellent works they are, too—no allusion is made to disease or traumatism as predisposing or exciting causes of uterine rupture during labor. Here in this case, from the history as obtained from the attending physicians and an intelligent husband, we have a rupture of the uterus during labor, produced, as I believe, by a violent attack of vomiting, having as a predisposing cause an organ vitiated by a previous metritis, endometritis, traumatism from adherent placenta, with thinning of walls, fatty degeneration, and a probable local inflammation as indicated by the "sore

spot" at the fundus. The continuance of this sensation of localized pain is worthy of note in this case, as the rupture occurred at this point.

Murphy, as quoted by Barnes, says "that alteration or disease of uterine wall was frequently indicated by such a painful spot."

Duparcque and Harrison relate cases of rupture during *pregnancy*, from vomiting. Why should not the same accident happen, with favorable conditions, during labor? Winckel says: "Straining is evidently sufficient to produce rupture in all cases of disease of the uterine walls." Trask says: "Inordinate voluntary exertion deserves to be enumerated among the causes of rupture of the uterus." The many cases reported of spontaneous rupture during pregnancy forcibly argue that diseased conditions of the uterus play an important rôle in etiology of spontaneous rupture. To quote from Jolly: "Contractions of uterus would not cause rupture without disease of tissues." Finally, the well-known predisposing causes, such as frequent childbearing, women over 40, enfeebled constitution, hard life, poverty, previous Cesarean section, and fatty degeneration, indicate that the uterus partakes of the general degradation of tissue and is thereby prone to rupture.

The second point of interest is the *location* of the rupture. It being a fundal rupture, occurring spontaneously during *labor* at term, renders it unique. I can find no record of a similar case in obstetrical literature. Spontaneous rupture of the body or fundus of the uterus during *pregnancy*, from dancing, lifting, vomiting, fatigue, and as the result of disease, has frequently occurred and many such cases are noted.

In that admirable work, "An American Text Book of Obstetrics," the author writes: "These (spontaneous) ruptures must always originate in the lower segment of the uterus." And Dorland, in his excellent "Manual of Obstetrics," just published, says: "The site of the rupture varies, but is always low down in the lower uterine segment." This case should probably modify these statements in later editions of these books.

Should the reporting of this case show that spontaneous rupture of the uterus during labor at term may be caused by an abnormal condition of the organ, and may be located at the body or fundus of the uterus, the object of the writer will have been attained.

2005 VICTOR STREET.

IN MEMORIAM.¹

HIRAM CORSON, M.D.,

1804-1896.

ANY man whose life is spent in pulling against the stream of error, of injustice, or of indifference—down which so many of the sons of men are drifting—develops a character that awakens our admiration. Should that life be prolonged through many decades and his strenuous efforts be rewarded by success, our admiration is thereby increased.

On October 8th, 1804, in Plymouth township, Montgomery county, Pennsylvania, Hiram Corson was born. He was the seventh child of Joseph and Hannah Dickinson Corson, members of the Society of Friends, and descendants of Colonial families. His school life began in the school at Plymouth Meeting, near his home, and was continued at the Friends' School in Philadelphia. He first entered the office of the *Norristown Herald*, a newspaper in the shiretown of Montgomery county, with journalism in view, but soon changed to medicine, and was graduated from the University of Pennsylvania in 1828.

He opened an office in his native township and continued there in practice for the rest of his active days; and then, laying aside the more active duties of life, enjoyed the well-earned opportunity for the continued activities of body and mind that are the possessions of those who have labored faithfully and well. At the beginning of the present year the last illness came, and on the 4th of March he entered into his rest.

Dr. Corson so used his mental powers as to have convictions, and furnished a pleasing example of a man who had the courage to advocate his convictions in spite of opposition or even worse. Fitz James' defiance,

"This rock shall fly
From its firm base as soon as I,"

well describes the unconquerable bravery of the man.

Like so many of his co-religionists, Dr. Corson was numbered

¹ Read before the American Association of Obstetricians and Gynecologists, at Richmond, September 22d-24th, 1896.

among the early abolitionists and was an active member of the "underground railway." And the spirit that actuated these men may be found to dominate in many of his efforts on behalf of his profession.

Early in his practice he rebelled against the then method of treating febrile affections with a very limited amount of liquid, and that very hot. He began to use cool water abundantly, despite opposition and prejudice, and continued to advocate it and to use it, living to see the world move up to him. Still later he was among the first to use cold affusions in the treatment of fevers—of scarlet fever more especially. In another conviction he did not gain the concurrence of the profession; but neither majorities nor opposite methods, *per se*, influenced a man of his mould, and his nearly singled-handed advocacy of venesection in pneumonitis was as ardent after years of almost fruitless effort to secure a following as was the championing of those causes where he was conscious that he was being rapidly joined by the majority. In illustration of this and of several points in his character an incident happening in 1887 may be mentioned. A brother's son, a physician, living a few miles away, was taken ill with pneumonitis, and was under the care of a neighboring physician of extensive practice and high reputation, but who never bled. After two days Dr. Hiram was sent for, and, although the attending physician predicted recovery in four or five days, he thought it a great risk to run, but no agreement was reached. The question was referred to the patient, who wished to follow the plan of his uncle. The physician who had been in attendance declined to take any responsibility in the case, and the whole burden was thrown upon Dr. Corson. But should he, could he, after a carefully arrived at conclusion, when his judgment could act unimpairedly, fail to do his duty because the fearful responsibility made him waver? Not at all! He bled freely, and his nephew began at once to recover. Shortly after, in writing a confiding letter, he said: "I cannot tell you what a fearful trial it was. My son had advised me not to take the responsibility, but I told (him) I would never leave his bedside until I had bled him, if he would submit to it at all. In all my fifty-eight years of practice I never had a greater strain on my mind and body."

A letter written to Dr. R. J. Dunglison, of Philadelphia, in 1890, so happily illustrates the earnestness of his conviction that it is worth quoting in this connection. He writes:

DEAR DR. DUNGLISON:—If you should get pneumonia send for me; I will either come down or send a Conshohocken doctor to you, and then you will not “go hence to be seen of man no more.”

Your friend,
(Signed) HIRAM CORSON.

Dr. Corson began and continued an all-around country doctor for sixty-eight years. He attended more than three thousand midwifery cases; and a calculation has been made that he must have paid some four hundred thousand professional visits, most of them in the country, and in doing so must have travelled on horseback or by carriage a distance that would have carried him sixty times around the globe.

But, much as he has done on the purely medical side of his career—as the trusted family physician through generations, the keen clinician, the pioneer in improved methods of treatment—he probably will be kept in remembrance longer for his efforts along the sociologic side of the physician's life. The same spirit that impelled him to espouse the cause of the slave and endure the odious epithet of abolitionist caused him to wish for fair play for those women who desired to become physicians; and the record of his efforts to secure the recognition of the woman physician reads almost like a chapter out of a story book.

The Woman's Medical College of Philadelphia graduated its first class in 1851. In 1858 the Medical Society of Philadelphia adopted a resolution withholding all countenance and support from the “faculties and graduates of female medical colleges.” This action was reported to the Medical Society of Pennsylvania in June, 1859, when resolutions substantially the same were adopted by the State society. Dr. Corson was not at the meeting, but the resolutions were sent to each County society, and came to that of Montgomery county in May, 1860. With this began Dr. Corson's championing the “boycotted.” On his motion a resolution condemning the action taken was adopted, which was to be presented to the State society at its meeting in 1860, where it was promptly tabled without debate. This defeat did not prevent Dr. Corson presenting another resolution at the same meeting, for which a substitute, accepted by him, was adopted by the society, stating that the grounds on which the action taken by the State society were based was not an abstract opposition to the practice of medicine by women. After the session many of the members spoke

privately to him, endeavoring to dissuade him from further efforts. They did not know their man. The opportune time to renew the effort was delayed for six years on account of the war, but in 1866 the attempt to rescind the action was renewed, only to again excite violent opposition, and yearly thereafter, until in June, 1871, the offensive resolution was repealed.

The Montgomery County Medical Society was the first in Pennsylvania to admit women physicians to membership (in 1882), and in 1888 there appears the name of a woman on the roll of membership of the Philadelphia County Society.

Another reform upon which Dr. Corson entered with his characteristic enthusiasm was along somewhat similar lines. After having been a trustee of a State hospital for the insane he became convinced that it would be better for the comfort of the female patients to be under the professional care of a physician of their own sex, and laboring, first in his State society and afterward in the State legislature, he succeeded in securing the passage of an act making it possible for the trustees of any of the State institutions to place the female patients under the care of a lady physician.

As a medical society man Dr. Corson's example is worthy of emulation. He was the founder of the Montgomery County Society, which antedated both the Medical Society of Pennsylvania and the American Medical Association, and he took an active part in the formation of these. He not only attended the meetings, but, with unselfish purpose, he planned and labored for their welfare, not striving, as we have already seen, to be popular, but to be right. Nor did he neglect to contribute his share of papers on medical subjects, furnishing topics for discussion for the mutual improvement of the members. It is said that he read not less than fifty papers before his County society, while the Transactions of the State society evidence the industry of his pen. Notwithstanding the added honors he ever remained loyal to his County society. Indeed, he esteemed the experience of a country physician at the bedside in the home of more value for record than the clinical observations in the city hospital.

He maintained an active interest in his profession and her affairs to the end. The last paper he published, on "Diphtheria and its Treatment," appeared in the *Medical and Surgical Reporter* in May, 1895. In the last letter received from him, dated August 10th, 1895, pen-written, without tremor, and

as easily read as his manuscript of years before, he says, after referring to the illness of an old friend :

“No one who looks at me can realize how weak I am. There came to me by last evening’s mail such a large package of letters from friends and strangers, but I felt too weary to look at them until this morning. I had exhausted myself a good deal by my too earnest and continuous work for several hours on a matter which I so much desire to finish. Did I correct some of the typographical errors in the reprints? I send you one with a cover that has them not in it, but has one that mystifies me, of my own making. I have marked it and sent a ‘Correction’ to the editor.”

Nothing can show his keen interest in affairs more clearly than this quotation: working earnestly for several hours correcting proof, and being mystified at mistakes—and past 90 years old! What débutante could revel in society life more enthusiastically than does this veteran in his profession?

Dr. Corson was married in 1833 to Ann Jones Foulke, and built a home near the place of his birth, where he continued to reside. In 1887 he writes :

“I have been greatly blessed in being free from envy of others who have been very successful in life, and free from regrets that my lot had not been to live in some other section. I look from my windows on the home of my ancestors of long ago, on the pleasant old home of my mother’s childhood and where she became a bride. I look a mile further and see my birthplace, the birthplace of all my brothers and sisters but two; and to me these homes are now, more than ever before, sacred, when I only am left of all that large family.”

Dr. and Mrs. Corson had nine children, of whom six survive him. Mrs. Corson died in 1888.

The memories of the years, each one adding a new bond of kindly friendship, tempt us to linger over these incidents and to recount others illustrating the traits of his character, but there is the danger of prolix reminiscence and tedious panegyric in such a course. We will rest content with what has been written, being fully assured that not a word of praise is given *now* that would not gladly have been said were Dr. Corson still in the flesh.

TRAILL GREEN.

EASTON, PA., June, 1896.

TRANSACTIONS OF THE SECTION ON
GYNECOLOGY, COLLEGE OF PHYSICIANS
OF PHILADELPHIA.

Stated Meeting, October 15th, 1896.

J. B. SHOBER, M.D., *in the Chair.*

By invitation DR. SPRENKEL read a paper on

PROLONGED PREGNANCY.¹

DR. RICHARD C. NORRIS.—I have listened with much interest to Dr. Sprenkel's paper. Of the many dangers which were enumerated, perhaps the most important, because the most frequently met with, is the danger of overgrowth of the child. It is my impression from my work, particularly at the Preston Retreat, that many of my forceps operations have been in women whose pregnancies have been prolonged; and, while I have not looked up the records to get accurate data, a careful study of the cases would probably confirm that statement.

As to premature detachment of the placenta, my experience offers but one case which I could attribute to prolongation of pregnancy.

The rule to induce labor on a case that has gone two weeks over the estimated time I think is a good one. Some uncertainty, however, attends the selection of the time for interference, since we have no accurate means of determining the absolute duration of pregnancy, and since we know that in the same individual the duration of pregnancy may vary from one to three weeks. We cannot be sure of a count from the last menstruation. Whether the impregnated ovule was discharged at the last menstrual period or just before the first missed period we are unable to say, and there is therefore uncertainty of from one to three weeks. With that uncertainty in view I think we are justified in allowing the woman to go two weeks over her time. It is my practice to induce labor at that time, when subsidence of the uterus has not occurred.

The same difficulty of determining the duration of pregnancy meets us when we come to induce labor before term, and an error of three weeks here will sometimes be disastrous for the child.

A case bearing on this latter subject comes to my mind at this moment—one I have recently had at the Preston Retreat. The woman in her first pregnancy went over her time, she claims, six weeks. She was delivered with great difficulty of a

¹ See original article, p. 846.

very large dead infant. Her second labor occurred at the Retreat. She entered the hospital at term, according to her estimate. Feeling a little uncertain about her menstrual history, I allowed her pregnancy to continue for three weeks, when she fell in labor and was delivered with forceps with difficulty on account of the large size of the child. The child, on the third day, died of inspiration pneumonia. I instructed her, should she again conceive, to come to the Retreat in ample time for an induced labor, and requested her to keep an exact account of her last menstrual period and of the date of quickening. She returned with these dates well remembered, and they both agreed exactly to bring her full term on the 1st of October. She did not fall in labor on that date. Labor was induced two weeks later, when she was delivered of a premature child weighing four and a half pounds. This simply showed that the calculations were wrong. She was very stout, so I could not by the ordinary abdominal examination get any approximate idea of the size of the child.

The dangers of inducing labor were touched upon in the paper. It seems to me it is very free from danger, yet recently I had an accident worth recording. The introduction of a bougie was attempted in a *prima gravida*. The cervix and internal os were very rigid and undilated, scarcely admitting a No. 17 French bougie, so that I had to use gentle manipulation to dilate the cervix with my finger. I then attempted to introduce the bougie, and as the tip of the bougie passed the internal os its grasp interfered with deflecting the tip of the bougie from the amniotic sac. Without employing any force whatever the amniotic sac was punctured. Not thinking very much of this accident. I left the woman for a time, and in the course of two or three hours found a prolapsed cord in which the pulsations had ceased. That is a danger which is liable to happen at any time, and one that under similar conditions it is difficult to prevent.

As to the method of introducing the bougie, I have found the following method of advantage. The difficulty is that, on account of the warmth and moisture of the vagina, the bougie becomes very soft and bends readily. I find it much better to introduce a stylet into the bougie up to within one or two inches of the end of the bougie. I remember, when a resident physician at Blockley, we had great difficulty in introducing the catheter in cases of prostatic hypertrophy with retention of urine, but on introducing into a silk catheter a stylet bent to the shape of a prostatic catheter we were enabled to enter the bladder by partially withdrawing the stylet at the moment the catheter touched the prostate. By the same means I make the point of the bougie hug the anterior uterine wall and keep away from the amniotic sac. Furthermore, that means of introducing the bougie makes the part that is in the vagina firm and steady, since it is supported by the stylet. The part that is in the uterus contains no stylet and is perfectly soft and flexible.

The subject of prolonged pregnancy is an important one.

From Winckel's statistics we know that in six or seven per cent of women pregnancy is prolonged to at least two hundred and ninety-four or three hundred days. I think it is a safe rule to induce labor two weeks after the expected time of delivery, and particularly in primiparæ, when the head has not entered the pelvis.

In a very large percentage of my cases prolonged pregnancy is due to this fact: women who come to the Preston Retreat are of the working classes, and they enter two weeks before term; they frequently enter very much earlier than that when they have misrepresented the date of their last menstruation in order to secure an early admission. They have nothing to bring on active labor pains at term, as would occur in their own homes when engaged in their every-day work. I believe it is far more common in lying-in hospitals to have prolonged pregnancy than in women in private practice engaged in their usual domestic duties. For that reason hospital patients should be watched all the more closely, with the idea in view of inducing labor two or three weeks past the estimated date of confinement. I have never seen any reason to believe that prolongation of pregnancy would predispose to infection or make it necessary to do any operation other than perhaps a forceps operation. Doubtless it would be possible, under some circumstances, to have overgrowth of the child to such a large extent that a more serious operation would be necessary. I remember a case I saw with Dr. Bloom not long ago where pregnancy had been prolonged. The child presented in the occipito-posterior position. Delivery was accomplished by forceps. The infant breathed and cried lustily when its head was born, but the size of its shoulders impeded and made a formidable obstacle to its delivery. In that case one shoulder caught at the upper edge of the symphysis pubis, and it was impossible to extract the child in time to save its life. It finally required the introduction of my hand into the vagina beside the child's large body, and caused laceration which required extensive stitching. In one other case I have had a similar experience, and Prof. Hirst recently told me the same thing occurred to him, and that if he had not happened to have a blunt hook with him he would have been perplexed to know how to extract the child. That prolongation of pregnancy causes overgrowth of the child, particularly of its head and shoulders, there can be no doubt.

DR. CHARLES P. NOBLE.—It seems to me that every case ought to be studied on its merits—those of prolonged pregnancy as well as others. Certainly in a positive way we can gain something from a careful examination of the particular patient. If on examination the child's head is found well down in the pelvis, and the woman's urine is normal and her general condition good, there is no indication for interference.

In a case like that referred to by Dr. Norris, where it was not practicable to map out the relation between the head and pelvis, such consideration would not hold; but it seems to me

the routine plan to induce labor in every woman supposed to be two weeks over time would result in inducing labor in many women in whom it was entirely unnecessary. The induction of labor is not a dangerous operation, but it is meddlesome midwifery to interfere if there is no occasion for it.

DR. SPRENKEL.—There is, of course, an exception to every rule, and at the University Maternity we make an exception, as Dr. Noble suggests, in those cases in which the head is low down in the pelvis and where the symptoms from pressure are not annoying. At the same time it is our general rule to induce labor in patients who have gone two weeks or more beyond term, and we have found it most satisfactory.

As to the danger of perforating the amniotic membrane, referred to by Dr. Norris, I have had this accident occur in two or three cases and have seen no bad results follow. The perforations have been high up, and the only consequences the discharge of a portion of the liquor amnii.

I have never experienced any difficulty in inserting a bougie in those cases which have gone beyond term; the cervix is always soft and the cervical canal easily dilatable. In a few cases where I have induced labor from four to six weeks before term I have found the cervix rigid and non-dilatable. In these cases I have no doubt that the aid of the stylet, as Dr. Norris suggests, would very much facilitate the entrance of the bougie.

DR. CHARLES B. PENROSE read a paper on

HYSTERECTOMY BY COMBINED ABDOMINAL AND
VAGINAL OPERATION.¹

DR. CHARLES P. NOBLE.—I have listened to the paper by Dr. Penrose with interest, because the proposition as he presents it, is certainly very favorable. I have operated for cancer of the uterus by vaginal hysterectomy, by abdominal hysterectomy, and also by combined hysterectomy. The combined method, as referred to by Dr. Penrose, was to begin below and finish above; and, as he points out, it has the objection that one is liable to carry infection from below into the peritoneal cavity.

It seems to me, however, that by pushing the abdominal part of the operation a little further the method could be improved upon—that is, to ligate all the vessels from above except those in the vagina itself. We would not infect the peritoneal cavity, because, the vagina not being opened, infection would not be present. I think that the steps of the operation as perfected by Clark, of Johns Hopkins, could be perfectly well carried out, with the exception of the closure of the peritoneum.

I intend to make use of the suggestion presented by Dr. Penrose, modifying it by endeavoring to remove as much of the broad ligaments as feasible. I have done the operation as elaborated by Dr. Clark and it is a very formidable one; if the patients are not in a very good condition, unquestionably the mortality

¹ See original article, p. 822.

will be considerable. It takes nearly two hours to do the operation along the lines laid down by Dr. Clark, and it takes a pretty vigorous patient to withstand a two-hour operation. I think the time can be considerably lessened by adopting the plan proposed by Dr. Penrose of finishing up from below and packing with gauze.

DR. C. B. PENROSE.—My objection to ligating the uterine arteries, as Dr. Noble has suggested, is the danger of infection of the ligatures and subsequent persistent sinuses. This danger does not apply to the ligatures upon the ovarian arteries and round ligaments, because they are so far removed from the vaginal vault.

REVIEWS.

A HAND BOOK OF PATHOLOGICAL ANATOMY AND HISTOLOGY, with an Introductory Section on Post-mortem Examinations, and the Methods of Preserving and Examining Diseased Tissues. By FRANCIS DELAFIELD, M.D., LL.D., Professor of the Practice of Medicine, College of Physicians and Surgeons, Columbia College, New York City, and T. MITCHELL PRUDDEN, M.D., Professor of Pathology, etc., College of Physicians and Surgeons, Columbia College, New York City. Fifth edition. With 365 illustrations in black and colors. Pp. 846. New York: William Wood & Company, 1896.

So well known has this valuable work become through its earlier editions that it needs no introduction to the profession. It is admirably systematic and its style clear, concise, and thoroughly readable. Unlike many medical works, the illustrations, which are from original drawings, are made to fit the text, and the absence of familiar and time-honored cuts is especially noticeable. Part I. describes the method of making post-mortem examinations and of preserving and examining pathological tissues. In Part II. the revision to which the entire work has been subjected is most marked. The section upon blood has been rewritten by Dr. James Ewing. This part contains articles upon hypertrophy, hyperplasia, regeneration, degeneration, etc. Inflammation is also discussed, and is followed by a chapter upon animal and vegetable parasites. The latter subject is concluded by an interesting summary of the latest views concerning immunity, and naturally leads up to the succeeding chapter upon the infectious diseases, which are individually considered. Tumors are next treated. The author believes that these are not of parasitic origin. He says that "to seek for a single external cause or group of causes for these aberrant tissue growths is to ignore the many still obscure inherent influences which are at work in all tissue growths, especially those influences which foster simple cell proliferation and tend, under the influence of heredity, to specialization in form and function. On the other hand, not to be ignored are

those influences, whether of nutrition or pressure or exposure, which mould the cell growth under normal conditions into purposeful and fixed forms." He thinks it strange that living tissue does not more often go astray in its activities, and speaks of the necessity of further study in the unexplored fields in cell physiology, in order to properly attack the subject of the origin and cure of tumors. Part III. is devoted to the pathological anatomy and histology of the various organs, and is most excellently illustrated. The female generative organs are treated under this head and are given fifty pages. Part IV. considers the lesions occurring in the general diseases, and closes with a description of those found in poisoning cases and after violent deaths.

H. D.

A MANUAL OF PHARMACOLOGY AND THERAPEUTICS. By WILLIAM MURRELL, M.D., F.R.C.P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, etc. Revised by FREDERICK A. CASTLE, M.D., Member of the Committee for Revision and Publication of the Pharmacopeia of the United States, etc. Pp. 516. New York: William Wood & Company, 1886.

However unsatisfactory a classification of drugs according to their physiological action or therapeutics may be, in view of the multiplicity of effects which many produce, it is difficult to appreciate the system—if such a term is applicable to this work—adopted by Murrell. He divides his volume into an introductory portion devoted to such subjects as diet, heat, cold, climate, mineral waters, administration of drugs and dosage, and four parts upon the pharmacology of inorganic substances, of synthetical compounds, of drugs of vegetable and of those of animal origin. The defects of such an arrangement are plainly seen in the classification of cod-liver oil and cantharides together to constitute the last-named part, and it is difficult to find any advantage in the consecutive description of such drugs as salicin, ipecac, senega, glycerin, and nux vomica. It would seem that the value of such a manual would have been greatly enhanced, as regards rapid reference, if the alphabetical order had been followed, or, as a text book, if each drug had been classified with its analogues in respect to one of its important actions, with cross-references to other classes which it resembles. Dosage is omitted entirely from the body of the work and incorporated in the index, necessitating reference to a different portion of the latter for each preparation of a drug, as these are indexed in groups of pharmaceutical preparations rather than in those of the individual preparations of each drug. The book is, however, written in a style which is eminently entertaining, a feature rarely observed in volumes upon this subject. Embodied in the text are many excellent formulæ, the therapeutic portion of the work being most practically treated, and a number of classified formulæ are also introduced just before the index. From a therapeutic standpoint the manual is most satisfactory, and its simplicity and the interesting character of its style sufficiently commend it.

H. D.

BRIEF OF CURRENT LITERATURE.

OBSTETRICS, GYNECOLOGY, AND ABDOMINAL SURGERY,
IN CHARGE OF THE EDITOR AND DR. JULIUS ROSENBERG.

PEDIATRICS,
IN CHARGE OF DR. A. RAYMOND-SCHROEDER.

OBSTETRICS.

Midwifery.—J. W. D. Hooper¹ gives a number of hints concerning the management of pregnancy and labor, and the pathological conditions liable to be met with. He urges attention to details before labor, asepsis during labor and the puerperium, and slowness in conducting the third stage. If deciduæ are retained and necessitate dilatation and curettement, this should not be done more than once in a case.

Premature Labor.—J. McCaw² describes a case of premature labor in which a septic condition had originated before delivery. A portion of the placenta was extremely fetid. Death occurred nearly three weeks after labor.

Protracted Labor.—A case of protracted labor and incomplete rupture of the uterine wall is reported by J. N. Upshur.³ Recovery.

Extrauterine Gestation.—In cases of *early rupture* of extrauterine pregnancy followed by profound collapse F. Henriotin⁴ advises immediate and rapidly performed laparotomy, followed by immediate closure. He believes that the time unnecessarily spent in cleansing the abdominal cavity has caused deaths. The liquid portion of the blood left in the peritoneal cavity acts as an intraperitoneal transfusion. The presence of septic material or doubt as to the asepsis of manipulations, however, indicates thorough cleansing and drainage, or the use of a large Mikulicz drain if the state of the patient requires rapid termination of the operation. Restlessness is an important indication of this condition, and profound progressive collapse should be differentiated from recurrent temporary swoonings. If collapse is not extreme, operation may be delayed several hours to ascertain from the history whether the case is one of tubal abortion or rupture. If the time of hemorrhage into the free cavity is more remote, and the patient has rallied from the initial shock, operation is unnecessary unless the collection is not removed by Nature. Operation is demanded at the first sign of sepsis, preferably by the vaginal route.

B. Holmes⁵ reports a case of extrauterine pregnancy.

A case of *fimbrio-peritoneal* ectopic pregnancy is reported by W. Balls-Headley.⁶ The ovum had become attached to the

fimbriæ, but subsequently derived its nutriment from a peritonitic post-uterine attachment.

R. H. Fetherston¹ records a death from extrauterine pregnancy, the ovum being situated within the wall of the uterus and having caused its rupture with subsequent hemorrhage.

The symptoms, diagnosis, and treatment of ectopic pregnancy are treated by L. E. Frankenthal.¹⁰

Post-partum Hemorrhage.—E. S. Bishop⁸ holds that compression of the aorta against the vertebral column is the only measure of primary importance in the treatment of post-partum hemorrhage. It should be applied by the ulnar side of the closed hand while the patient is in the dorsal position, and is to be maintained until hemorrhage ceases. The uterine muscle is given time to rest and regain its contractility, and secondary measures, such as massage of the fundus, ergot, etc., tending to stimulate the uterus to contraction, meet with response. The blood is also retained in the portions of the body which most require it. The point of compression should be changed occasionally in order to avoid prolonged pressure upon any portion of the sympathetic, and when the pressure is ultimately removed it should be done very gradually, watching meanwhile the effect of the increased blood flow in the uterus. Brandy by mouth or rectum, raising the foot of the bed, hot bottles around the body, and the removal of blood clots or placental tissue are valuable measures after compression of the aorta has been begun. The use of ice, ice water, and douching are condemned as unnecessarily submitting the patient to the danger of pneumonia; the injection of perchloride of iron, as liable to prove ineffective; and tamponing the uterus, as only of temporary value, the exhausted uterine muscle soon failing to contract, and its relaxation allowing fresh hemorrhage which is concealed by the tampon.

Organic Heart Disease during Pregnancy.—A. W. W. Lea¹¹ writes upon the effect of various organic cardiac lesions during pregnancy, labor, and the puerperium, and describes seven illustrative cases. If signs of cardiac insufficiency appear before the third month abortion is indicated, and if back-pressure symptoms are noticed after the fifth month digitalis or strophanthus should be used and the urine carefully watched. Induction of premature labor, without rupturing the membranes when inserting the bougie, may be advisable in selected cases. During labor the second stage should be made short. Artificial dilatation and delivery may be employed, chloroform being usually safe, though ether is preferable. The extraction should be performed slowly. During the third stage free hemorrhage relieves the right side of the heart. Ergot should not be given. For heart failure immediately after delivery five-minim doses of amyl nitrite are recommended. If cyanosis is marked after labor venesection should be tried. Dry or wet cupping over the lungs has sometimes been serviceable. As sudden cardiac failure often occurs within the first three weeks after delivery, absolute rest in bed is imperative, and cardiac

tonics, especially digitalis and strychnine, should be administered.

Fibromyoma complicating Pregnancy.—A complete abdominal hysterectomy, performed by R. Douglas" for intra-ligamentous fibromyoma complicating pregnancy, was followed by rapid recovery. Labor had lasted seventy-two hours at the time of operation, and the child could not be resuscitated.

Appendicitis complicating Pregnancy.—Removal of an inflamed appendix during pregnancy by B. Holmes* was not followed by abortion.

Varicose Veins.—In speaking of the etiology of varicose veins in the female, T. H. Manley" refers to the causative action of menstruation, early conception, and pressure of the gravid uterus in advanced pregnancy.

Young Ovum.—Leopold" demonstrated the uterus of a woman 30 years old, extirpated for cancer of the cervix and containing *an ovum not more than eight days old*. It is the size of a lentil, embedded in the mucous membrane, out of which it slightly projects. After a hardening process the ovum, or, better, its cavity, was opened, and the periphery of the minute formation was seen to be surrounded with fine villi or buds; these were least numerous above the spot of junction of the reflexa. The decidua shows new-formed arterioles and capillaries leading with open mouths into the intervillous spaces. This is the youngest human ovum ever found and demonstrated.

Epidemic of Mastitis in the Strassburg Maternity Hospital.—Freund." Within a period of seventeen days there occurred six cases of mastitis in one ward at the Strassburg Clinic. The cause and nature of the infection was only discovered through a bacteriological examination of the abscess contents. In the pus of the second case there was found, besides the staphylococcus pyogenes albus, a micro-organism which was recognized to be the micrococcus tetragenus. This bacterium occurs in the mouth, especially in diseases of the mouth, and has been identified by Monnier as a cause of mastitis. It was found that Case No. 2 had nursed, on the day preceding the onset of the mastitis, an infant possessing a stomatitis aphthosa of marked degree. Ten hours after the nursing the mastitis manifested itself through chills, convulsions, etc. The micrococcus tetragenus was found in the mouth of the infant. There being no possibility of direct contact between this woman and the other puerperæ, the infection could only be transmitted by the air [*hands of nurses or physicians?*]

Placenta Previa.—After severe hemorrhage from placenta previa at the sixth month, A. Dixon" induced premature labor. The mother rallied and the infant, eleven inches long and weighing about two pounds, was saved.

Eclampsia.—A case of eclampsia without renal symptoms caused abortion at the seventh month. J. R. Gibson" claims that recovery was due to venesection subsequently practised.

J. W. Latimer" describes a case in which recovery from

eclampsia was followed by diphtheria, the patient giving birth to a living child at term during the latter attack. Diphtheritic infection occurred at the placental site and at lacerations of the cervix and perineum. Recovery.

T. Burgess²² advocates blood-letting for eclampsia, except when there is extreme prostration arising from prolonged labor, and thinks that even then the abstraction of a small amount of blood is often of great value. Two successful cases are given as illustrative of the treatment.

The Treatment of Eclampsia (from the International Gynecological Congress in Geneva).—*Charles*: Eclampsia is the result of different causes, and accordingly more or less dangerous. Usually the result of poisoning of the blood by an accumulation of waste products normally removed by the liver and kidneys; rarely of reflex nature. Intoxication of renal origin is most common and generally accompanied by albuminuria and edema of various parts of the body. Albuminuria, however, is not the cause of eclampsia, but only a disease symptom originating from the like cause. The author's statistics show 1 case of eclampsia in 151 confinements, with a maternal mortality of 24.42 per cent, while the infantile death rate is 41.83 per cent. The disease is most frequent in primiparæ, but the death rate is higher in the latter. *Charpentier*: The urine of every pregnant woman must be examined with great care at frequent intervals; when the presence of albumin in the urine shows that the woman is threatened with eclampsia, danger can be avoided by a strict milk diet. At the beginning of eclampsia venesection is indicated in women of robust constitution and with a cyanotic countenance; 300 to 500 grammes of blood should be abstracted. Afterward chloral is administered. Eclamptic attacks are combated by chloroform inhalation, while diuresis is favored through subcutaneous infusions of physiological saline solution. Whenever possible the natural termination of labor is advised, and use of instruments is cautioned against. If, in spite of pains, delivery does not progress, version or forceps is indicated in the living child, otherwise craniotomy. The soft parts, however, must be dilated or easily dilatable before instrumental delivery should be attempted. The induction of premature labor is reserved for exceptional cases. Cesarean section and accouchement forcé are only permissible as *dernier ressorts* in desperate cases. *Veit*: Many cases will recover under any treatment. The proof that a forcible delivery in deep narcosis gives the best prognosis has as yet not been substantiated. The results obtained from the systematic administration of large doses of morphine have not been equalled by other methods. The favorable reports of success from venesection are not sufficient in number to permit the passing of final judgment. A rational therapy of eclampsia is not possible until the etiology is absolutely clear. Hastening of labor by rupturing the membranes, delivery after completion of dilatation, administration of large doses of morphine to diminish the frequency of attacks, no nourishment per os and

the production of diuresis through external means, is to-day the best and safest method of treatment. In exceptional cases more grave operations may be permissible. *Byers*: Elimination of toxins is hastened by an administration of hot baths and packs, cathartics and diaphoretics. If eclampsia occurs before the onset of labor the latter should not be artificially stimulated. In intrapartum eclampsia the administration of chloroform and rapid termination of labor are advised. Rest, milk diet, laxatives, and hot baths are the best prophylactic therapy. *Tarnier*: Milk diet is the best prophylactic. Since 1892 he has treated cases of eclampsia with chloroform, chloral, venesection, and milk—the latter, if necessary, administered with the stomach tube. The mortality at his clinic has sunk to 9 per cent, and there has so far (September) not been a single death during 1896. *Lindfors* demonstrated specimens showing a dissemination of liver cells in the blood of eclamptic women. He drew particular attention to the fact that the emptying of the uterus is not always followed by a cessation of the eclamptic seizures. *Pancord* advises milk diet as the best-known prophylactic. *Queirel* observed during the years 1890–96 in 1,200 labor cases 27 cases of eclampsia; not one case originated in the hospital. *Queirel* ascribes the absence of eclampsia among the hospital cases to the rigid milk diet enforced in every case of albuminuria. *Morisani* draws attention to the cessation of albuminuria and eclamptic seizures after death of the fetus. There must therefore be a certain connection between fetus and eclampsia. In the treatment of eclampsia the following rules are laid down: Medical treatment only during the fourth and fifth months of pregnancy. In the beginning of labor, after sufficient dilatation, immediate delivery is indicated. If the os is rigid and contracted, artificial dilatation, preferably with the finger. *Dührssen's* method of deep incisions is not favored; instead of these he advises in desperate cases Cesarean section. *Pasquali* agrees with *Morisani*, and *Fochier* believes that the cause of eclampsia is the resorption of digestive products by the stomach; he therefore recommends washing of the stomach and the instillation of milk and chloral.

The Weight Variation of Infants and its Causes during the First Two Weeks of Life.—Schaeffer. The weighing of 592 healthy and full-term children gave the following results: 1. Only 14½ per cent of all children regained their initial weight on the seventh day and continued to increase in weight to the fourteenth day. 2. Forty-one per cent regained or passed the initial weight on the fourteenth day. 3. Forty-four and a half per cent had not regained their initial weight on the fourteenth day. 4. The lowest weight is recorded on the third day; the initial weight is usually attained on the ninth to tenth day. 5. Male infants show less weight differentiations than females. 6. Infants who are above the average weight at birth, especially if they are females, show an increased tendency to decrease in weight. 7. Primiparae weighing less than 5½ kilogrammes and below 20 years give birth to small children,

which only slowly gain in weight; the same holds good for sick mothers and those who have to work hard during pregnancy. The conditions for the children are more favorable when the offspring of *primi-* or *pluriparæ* above 55 kilogrammes in weight and between the ages of 20 and 29; in these women the birth of male children predominates. 8. The loss of weight up to the third day is greater than the weight difference of nourishment and excrement; this weight loss serves to produce heat, as can be seen in the increased excretion of uric acid during this period. 9. Premature children have a tendency to become icteric and show a greater weight and temperature decrease. 10. Children of tuberculous and syphilitic mothers remained on the fourteenth day far below their initial weight. 11. Icterus neonatorum is the result of the self-consumption of the infantile organism for the production of heat. This self-consumption also causes an increased production of bile and a breaking-up of red blood corpuscles. The bile enters the blood through the low pressure in the bile ducts and slow circulation caused by the lack of water and absence of nourishment stimulation. Icterus is most frequent in premature or weak children who slowly gain in weight and are the offspring of *primiparæ*.

Gas-bubbles in the Blood of a Puerpera who died after Tympania Uteri.—Schnell." An unsuccessful attempt at version for transverse presentation was made in a *primipara* twenty-four hours after rupture of the membranes. Twelve hours later labor was terminated by version and perforation of the aftercoming head. Tympania uteri existed at that time. In the beginning the uterus contracted well after a hot intra-uterine douche; later the uterus relaxed again, and the woman died three and a half hours post partum with the symptoms of a gradually increasing collapse. At a post-mortem, death from exsanguination could be excluded, but bubbles of gas were found throughout the whole circulatory system. The author believes that the gas found was atmospheric air which, through the continuous massage of the flaccid uterus, was gradually forced into the circulation.

Non-draining Gauze Tampons in the Treatment of Post-partum Hemorrhage.—Although the recommendation of Dührssen to treat obstinate post-partum hemorrhage by firmly tamponing the uterus and vagina with iodoform gauze has been followed by most excellent results, yet there are recorded a number of observations where the bleeding continued in spite of a most careful tamponade. Schaeffer" ascribes this to the draining qualities of the gauze, and avoids it by impregnating the gauze with gutta percha. Such gauze will not imbibe any fluid, but does retain it in its meshes, thus favoring rapid blood coagulation. The material is soft, may be aseptitized, and can also be impregnated with iodoform, nosophen, or ferripyrin, the latter augmenting its hemostatic action.

Endometritis Decidualis Gonorrhoeica as a Cause of Accidental Hemorrhage.—Marlowsky" made microscopical

examinations of the placenta in a typical case of accidental hemorrhage. The decidua showed extravasations of blood and infiltration with leucocytes. Gonococci were found in the decidua vera. Gonococci were also found in the vulva of the puerpera, who developed fever on the third day post partum, and stated that when four months pregnant she acquired a purulent discharge. The author concludes that the gonorrhea extended up into the uterus, causing there a gonorrheal endometritis which resulted in the premature detachment of the placenta.

Putrescence of the Fetus.—Kehrer." The danger from putrescence of the fetus is very great; Staude finds that fifty per cent of putrid pneumetra are fatal, while Hofmeier lost twenty-three per cent in spite of rigid antiseptic treatment. The treatment in such cases is to extract as rapidly as possible, but without injury to the maternal soft parts. If the condition of the soft parts or pelvis makes a delivery without damage to the soft parts impossible, the Porro operation with extraperitoneal treatment of stump may be indicated; the same operation gives also the best prospects in beginning gangrene of the uterus.

Rupture of the Uterus.—A fatal case of rupture of the uterus is reported by J. Saxl."

Secondary Abdominal Pregnancy going to full term and following a traumatic rupture of the uterus in the fourth month of gestation; laparotomy three weeks after the death of the fetus; recovery.—This case is probably unique in medical literature. A woman 42 years old was admitted to Leopold's" clinic, December 19th, 1891, with the diagnosis of abdominal gestation. She married in 1873 and had given birth to eleven children. Eight confinements normal; in the last three placenta adherent, requiring manual removal, and followed by fever and tedious recovery. She ceased menstruating in 1887, but yet conceived four years later. In the spring of 1891 she observed that her abdomen grew larger; life was felt in the beginning of August, the fetal movements being painful from the outset. About this time she fell down a flight of stairs, landing heavily upon her buttocks and back; this was followed by neither bleeding nor inflammatory symptoms, but the fetal movements were accompanied by such intense pain that she had to remain in bed. Three weeks before admission to Leopold's clinic fetal life and the pains ceased; instead of them appeared chilly sensations, headache, and general discomfort. A discharge of blood or decidua was never observed. A physical examination made on admission showed a pendulous belly hanging over the symphysis, in which region a head could be felt; the latter appeared to be directly underneath the abdominal walls, the sutures and fontanelles being plainly distinguishable. The breech and small parts were felt on the left side, while opposite an elastic mass reaching up to the umbilicus could be made out. The left fornix vaginae was occupied by a small, movable body apparently belonging to the fetus. The history and physical examination resulted in the diagnosis

of abdominal pregnancy of a fully developed fetus, dead about three weeks.

December 21st laparotomy was performed. The abdomen was occupied by a sac, having thin transparent walls, containing a fetus. After rupturing the sac and ligating the cord a dead fetus was extracted. Following up the cord to reach the placenta, it was found to lead into the uterus through a small slit in its posterior wall. To leave the placenta in the uterus and remove it per vaginam was decided dangerous,

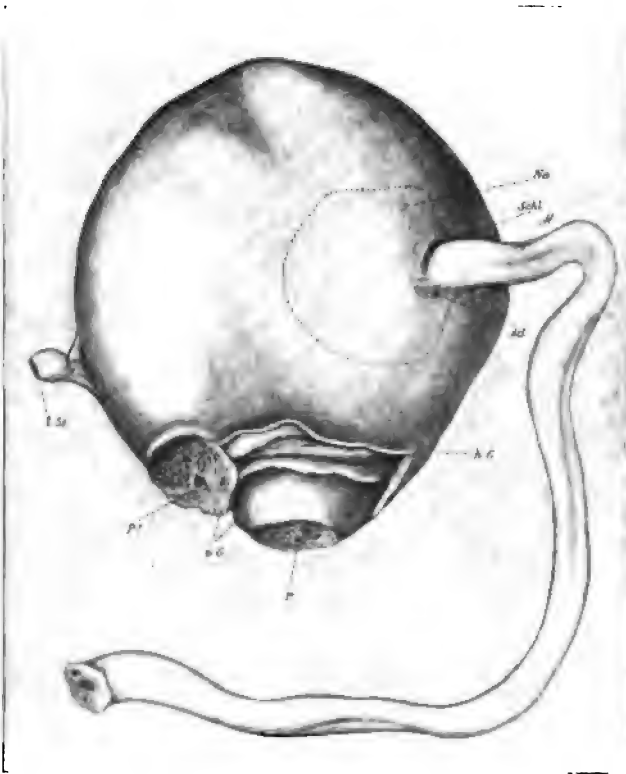


FIG. 1 represents a posterior view of the uterus. The cord (N) enters the uterus through an opening (Schl). Tracing the cord into the slit (Schl), it is seen to be adherent below (Ad), but otherwise freely movable. Below, the illustration shows where the uterus was amputated, v.G and h.G being the anterior and posterior uterine walls, while P and P' are a section of the placenta.

and the uterus was therefore extirpated. Treatment of stump extraperitoneal. The woman made a good recovery. Inspection of the extirpated uterus shows a rent in its posterior wall, about two centimetres long, and partially closed; from this the umbilical cord emerges. The opened uterine cavity is filled by a placenta succenturiata showing recent hemorrhages under-

neath and into its substance. Its cavity is lined with fetal membranes, except at the point of exit of the cord.

Leopold concludes that the ovum developed primarily intra-uterine. In the fourth month of gestation the woman sustained a traumatic rupture of the uterus, the sharp point of the promontory lacerating its posterior wall. The fetus escaped into the abdominal cavity, without, however, rupturing the membranes. It continued to grow in its new quarters, while the placenta remained in the uterus. The absence of bleeding and inflammatory symptoms is explained by a gradual escape of the fetus from the uterus, its surrounding membranes acting as a tampon, while the placenta remaining *in situ* prevented sudden

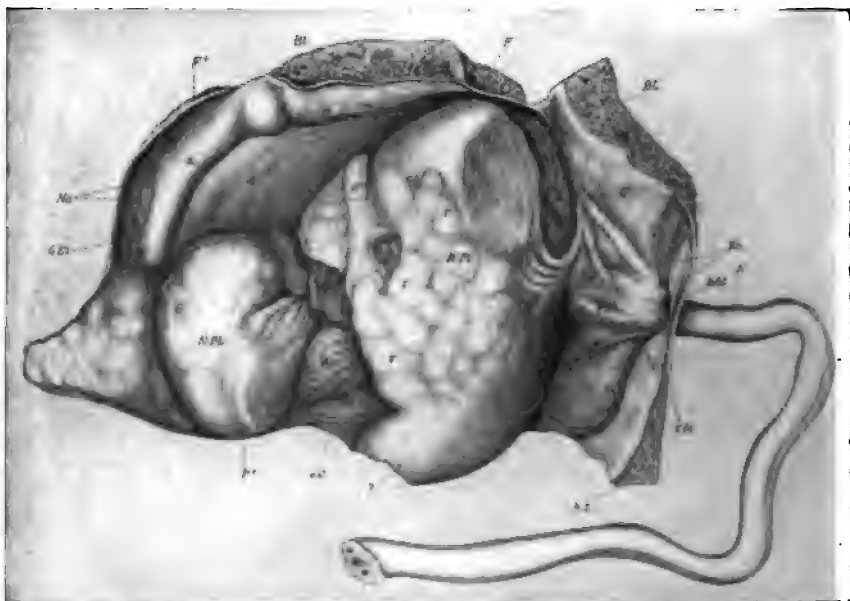


FIG. 2.—The uterus is cut open. H.Pl and N.Pl are the placenta, showing it to consist of a main and subsidiary portion connected by membranous tissue (Br). The superficial veins of the placenta unite on its right border, forming a velamentous insertion (VI) of the cord (N), which leaves the uterus through the slit (Schl), which is seen to have partially united (Na).

uterine contraction. At the end of gestation the uterus made ineffectual efforts to empty itself; this is seen by the partial detachment of the placenta and the extravasation of blood underneath its walls and into its substance. The accompanying illustrations show better than words the condition found.

Puerperal Fever.—The use of the uterine curette and intra-uterine douche in puerperal fever is strongly denounced by F. D. Mooney." The symptoms, diagnosis, and treatment of puerperal infection are the subject of an article by B. C. Hirst." In considering the treatment he expresses the opinion that the artificial production of hyperleucocytosis gives greater promise

of practical results than does serum therapy. He says of the latter that it requires a long time, and especially virulent inoculations, to obtain a serum with antitoxic and germicidal properties. It should be prepared, therefore, with great care, and should be obtained from a thoroughly reliable source. There is a possibility that this serum may contain dangerous toxins and that the treatment may be more dangerous than the disease. There is a streptococcic infection so virulent that the antitoxin will be of no avail, no matter how strong it may be. There is an undeterminable time in streptococcic infections when the serum will be used too late. The antistreptococcic serum has no antagonistic power over other pathogenic micro organisms. As it is not easy to determine during life whether the infection is pure or mixed, though the majority of puerperal infections are due to streptococci, the use of the serum must be more or less empirical.

GYNECOLOGY AND ABDOMINAL SURGERY.

Ovariectomy and Pregnancy.—R. S. Sutton²² records a double ovariectomy followed in about a year and a half by the birth of a child. The patient again became pregnant and was delivered of another infant after a like interval. She had previously been sterile for six years after the birth of her first child. He also reports a double ovariectomy during pregnancy followed by the birth of twins at term.

Symphiseotomy.—A symphiseotomy performed by H. H. Mudd for generally contracted pelvis is reported by H. S. Crossen.²³ The immediate results of the operation were satisfactory, but the patient died from a tubercular cerebral lesion. Crossen gives the indications for symphiseotomy, and describes several methods of performing it and the proper after-treatment.

Cesarean Section.—A case of Cesarean section necessitated by pelvic deformity, and successful for both mother and child, is recorded by J. B. De Lee.²⁴

Vesical Lesions during Obstetrical Operations.—The vesical lesions which may occur during obstetrical operations are discussed by V. Bué,²⁵ who urges the necessity for emptying the bladder as a prophylactic measure before such operations.

The Os Internum of the Cervix.—A. H. F. Barbour²⁶ describes a microscopical examination by which he locates the position of the internal os in the pregnant uterus as below a retraction ring.

Monstrosity.—A diprosopic monstrosity is described by W. A. N. Dooland.²⁷ The monster possessed four eyes, two ears, and two mouths communicating with a common esophagus. The child lived fifteen days.

Hydatidiform Degeneration of the Chorion.—E. J. Kempf²⁸ puts on record a case of hydatidiform degeneration of the chorionic villi discovered on account of severe hemorrhages at the tenth week of pregnancy. Recovery followed the emptying of the uterus.

Results of Gynecological and Abdominal Surgery.—Among the defects following operations mentioned by B. Robinson¹ are peritoneal adhesions. These are often the cause of post-operative pain. They may be avoided by strict cleanliness, the use of no irritating solutions upon the peritoneum, little traumatism and manipulation of the viscera, the use of absorbable ligatures, covering all denuded surfaces with peritoneum, the avoidance of peritoneal irrigation which spreads germs and desquamates the epithelium, and abstinence from the use of drainage tubes and gauze packing when possible. Fecal fistulæ are caused by an infected ligature sloughing through the intestine, a reopening of an old abscess cavity which had previously perforated the bowel, or traumatism occurring when breaking up adhesions. All suspected traumatized intestinal walls should have an omental graft stretched over them with catgut. To avoid post-operative uterine hemorrhages when bilateral disease exists, the uterus should be removed with the appendages.

Pelvic Suppuration.—An unsuccessful vaginal hysterectomy for pelvic suppuration, performed by Duret, is recorded by Camelot.²

Cancer of the Uterus.—W. R. Williams³ presents a comprehensive article upon the symptomatology, physical examination, and diagnosis of uterine cancer. Several cases in which all symptoms of cancer were absent are reported. Daniel Lewis⁴ recommends, in inoperable cancer of the uterus, a deodorizing lotion, preferably containing eucalyptus. The vagina should be loosely packed with cotton tampons saturated with a five per cent solution of aristol in albolene or benzoinol. A vulvar pad of finely prepared oakum is absorbent, deodorant, cheaper than cotton, and equally useful in advanced cancer of the rectum.

Uterine Fibroids.—J. Homans⁵ has successfully removed, by the abdomen, a uterine fibroid weighing sixteen pounds.

Chronic Endometritis.—J. Brettauer⁶ emphasizes the impropriety of local treatment in cases of chronic endometritis based on constitutional conditions occurring in virgins and young married women. If internal medication is unsuccessful in these cases curettement under anesthesia and correction of existing displacements is indicated. In cases of chronic endometritis with an increased secretion of muco-pus or pus, he employs applications of a twenty-five per cent solution of chloride of zinc twice during each menstrual interval. If this fails, after two or three months, he uses curettement, followed by renewed applications of zinc chloride if necessary.

Hermaphroditism?—A case apparently of male pseudohermaphroditism is described by B. Lewis.⁷ The characteristics and anatomical features of the two sexes seem greatly intermixed.

Multilocular Cyst of Great Omentum.—F. B. Jessett⁸ has enucleated a cyst of the great omentum. The patient was doing well when the case was reported.

Transfusion for Hemorrhage.—E. Holland¹¹ records the successful result of the transfusion of three pints of salt solution after the patient had been pulseless for a quarter of an hour on account of severe hemorrhage from the pedicle after an ovarian operation.

Gynecological Instruction.—D. Lewis¹² treats of the best method of teaching gynecology—practical demonstrations combined with explanatory lectures.

Prolapse of Small Intestine through the Open Ductus Omphalo-entericus.—The vitelline duct, which connects the vitelline vesicle with the intestine and is normally obliterated at the end of the second month of fetal life, in rare instances remains an open canal. If this is the case, then, after the cord has fallen off, an umbilico-intestinal fistula results, from which, according to angle, more or less feces are discharged. It can also be seen that, as a result of heightened abdominal pressure (cough, vomiting, etc.), the omphalo-enteric duct may become invaginated, which process of invagination can extend to the adherent gut; a sausage-like protrusion is then formed. Arndt¹³ reports the history of a boy 16 days old who was brought to the Göttingen Clinic. The midwife reported that at the time of birth she remarked about the enormous thickness of the cord, which, however, was ligated in the usual way. The cord not falling off, a physician was called in, who referred the child to the clinic. Upon examination it was found that the omphalo-enteric duct was still patent and a portion of the small intestine was protruding. An incision was made surrounding the umbilicus; the invaginated portion of gut was reinverted and its junction with the open duct closed by a row of intestinal sutures. Death occurred twenty-four hours later from peritonitis, the result of an incomplete closure of the intestinal wound. These cases are rare; only sixteen can be found in the whole medical literature. The prognosis is bad—but two recoveries are noted.

Bursting of the Abdominal Wound after Laparotomy.—Jahreiss.¹⁴ A woman was operated on for double hydrosalpinx; the wound was closed with interrupted silk sutures. During the first four days there was incessant vomiting, normal temperature, accelerated pulse, and marked tympanites. Vomiting subsided after washing out the stomach. On the ninth day the abdominal wound was found to have united by first intention; sutures removed. Six hours later patient awakens, complains of severe abdominal pain. Upon investigating the nurse finds the abdominal wound open and a coil of intestines protruding; reposition of intestines, suturing of wound; union by first intention. As cause for this accident trophic disturbances are given. The patient's general condition, bad before the operation, was aggravated through the persistent vomiting and consequent lack of nutrition.

Senile Endometritis and Vaginitis.—Senile endometritis is considered by A. H. Goelet¹⁵ as perfectly amenable to treatment, though this must be prolonged to effect a cure. It is found more frequently in women who have not received treat-

ment for uterine disease before the menopause. While it may result from neglected endometritis occurring during menstrual life, the changes in the uterus incident to the menopause are responsible for many cases. Pelvic pain is rarely a prominent symptom and is more often complained of when a retroversion coexists. A burning pain on the top of the head, in the lumbar region, or over the sacrum may be present. Rectal or vesical tenesmus or impaired digestion may be discovered. If a patient past the menopause complains of disordered digestion, is thin and poorly nourished, the skin dry and irritable, and the general circulation poor, senile endometritis may safely be diagnosed. Goelet treats this affection by dilatation of the uterine canal to promote drainage. He employs the negative pole of the galvanic current through conical electrodes of gradually increasing size, and then irrigates with a one per cent solution of lysol, meanwhile passing the current through the irrigator. The vagina is similarly cleansed and the vaginitis treated by applications of a non-irritating antiseptic powder and frequent douching with the same in solution.

Retrodisplacements of the Uterus.—A condensed description of the procedures employed for the treatment of retrodisplacements of the uterus is given by E. E. Montgomery, "who outlines their applicability as follows: In recent cases, with a freely movable uterus, the medicated tampon or pessary. In many cases the former will be required as a preparation for the latter. In recent cases with a plastic exudate and adhesions (when pus tubes can be excluded), massage supplemented by the medicated tampon and restoration of the mobility of the uterus, followed by the use of the pessary. In chronic cases with a movable uterus, curettement, followed by suturing the round ligaments in front of the uterus through an anterior colporrhaphy. When the displacement is complicated by disease of an ovary or tube, curettement, followed by abdominal incision, treatment of the affected appendage, and fixation of the uterus to the abdominal wall. When there exist adhesions without serious tubal or ovarian diseases, curettement and shortening of the utero-sacral ligaments after separation of the adhesions through the posterior vaginal incision.

H. T. Byford⁴ has performed the following operation for retroversion in ten cases, the uterus remaining in each case in position without the aid of a pessary. The results of subsequent pregnancy are not reported. Through a T-shaped incision in the anterior fornix the peritoneum between the bladder and uterus is opened, the pelvic viscera explored, adhesions broken up, the fundus of the uterus attached to the bladder by two chromicized catgut sutures, and the round ligaments shortened by passing a suture through each at a distance from the uterus, and through the latter organ immediately above the normal uterine insertion of the ligament. The entire vaginal incision is closed by transverse sutures, which also unite the bladder and vagina and lengthen the anterior vaginal wall. A narrow gauze drain is placed in front of the cervix, emerging

between these sutures, and is removed in twenty-four hours. F. W. Talley "believes the celiohysteropexy is indicated whenever an adherent retrodisplaced uterus cannot be relieved by non-operative treatment and is attended by such symptoms as disordered and painful menstruation, backache, bearing-down pains, obstinate headache, anorexia, difficult or painful defecation, and reflex nervous symptoms, not relieved by local treatment. Unless the uterus is raised too high there will be no dragging pains, there will be little tendency to abortion, and the suspensory ligament will stretch or rupture as the uterus enlarges. The indications for ventral suspension of the uterus are given by A. H. Goelet "as : a retroflexed or retroverted uterus fixed by adhesions ; prolapse of the uterus ; a movable retrodeviation complicated by a prolapsed, enlarged, sensitive ovary ; and, finally, when the uterus is left, by removal of both appendages, without the natural support of the broad ligaments. J. Frank "suggests a modification of Alexander's operation by drawing out a loop of the round ligament, uniting the opposing sides of the loop by a continuous or interrupted suture, and placing it beneath the transversalis muscle, to which it is fastened by a single suture.

Küstner (International Gynecological Congress in Geneva) : No operative method can re-establish the normal position, but the uterus may regain a position approaching the normal. In fixed uteri the adhesions must be loosened, preferably by massage or Schultze's method ; if extensive, by opening the abdomen per vaginam or laparotomy. The uterine function is least interfered with after Alexander's operation, ventral and vesical fixation. Vaginofixation, especially if it extends up to the corpus uteri, interferes with the functions of the uterus and should be restricted to women past the menopause. The best operation for fixed retroversion is Olshausen's ventrofixation, while in mobile uteri Alexander's operation, as modified by Werth-Kocher, is advised. The indications for operative interference are long standing of the disease and failure of other methods. The rational treatment of excessive mobility of the uterus is complicated and must fulfil many indications: (a) Curing of the frequently complicating metritis (curettement, amputation of the cervix, etc.). (b) Plastic operations to reform the torn or relaxed perineum. (c) Wearing of pessaries which fix the cervix, or abdominal belts to regulate the intra-abdominal pressure. The treatment of a fixed retrodeviation is identical with the treatment of its cause. The rupture of the existing adhesions is not only irrational but also dangerous ; the retrodeviation is only a complication of a disease of uterus and adnexa, and the treatment depends upon their condition. Many cases of fixed retroversion give absolutely no symptoms, and pains reappear only with the new onset of a metritis. In cases where the clinical examination shows diseased adnexa laparotomy is advised, and the ovaries and tubes are treated in a conservative way, existing adhesions are broken up, but the uterus is left alone and not fixed to the vagina

or abdominal walls. In chronic hypertrophy of the uterus and metritis accompanied by extensive disease of the adnexa hysterectomy is advised. *Polk*: The uterus must never be fixed to the vagina, bladder, or abdominal walls. In uncomplicated cases Alexander's operation is advised. Adherent retrodeviations occurring during the childbearing period must be treated by an intraperitoneal shortening of the round and, if necessary, of the utero-sacral ligaments, preferably by the vaginal route. *Reynier* recommends ventro- or, if necessary, vaginofixation, always accompanied by curettement. *Wylie* advises Alexander's operation. *Jacobs* draws attention to the subsequent dangers from ventrofixation (intestinal obstruction). He demonstrates adhesions obtained from four different cases, in which one adhesive band measured twelve centimetres. Vaginofixation is absolutely condemned on account of its liability to produce dystocia. He fixes the uterus in the excavatio vesicæ, after which he has observed six times normal pregnancy and labor. *Pichevin* recommends Alexander's operation in conjunction with colporrhaphia anterior and posterior. In women past the menopause vagino-fixation is safe and effective. *Petit*: For recent retrodeviations, pessaries only; operative treatment in cases where sterility and not pain is the symptom for which relief is sought. Alexander's operation is the method preferred. *Coelho* considers vaginofixation a good method when the symptoms are due to malposition and not to disease of the adnexa. *Péan* condemns every operative treatment in mobile retroflexions or in cases in which the adhesions may be ruptured. He considers the pessary sufficient in the majority of cases, and operative interference should be reserved for exceptional cases. *Sänger* says that abdominal fixation is the only method which gives good results and causes only trifling disturbances during pregnancy and labor.

Pyosalpinx.—F. F. Lawrence⁹ says that the mucosa of the Fallopian tube is a true mucous membrane, possessing all the histological elements of such a structure. The fimbriæ are prolongations of the folds of mucous membrane, with a few muscular fibres, beyond the end of the tube proper. The closure of the fimbriated extremity is effected by the unfolding of these plicæ and the elongation of the muscular fibres with coincident inflammatory exudate—not by adhesion of peritoneal surfaces—by the formation of adhesions between the fimbriæ and adjacent structures, and by embedding of the fimbriated end in the exudate. The closure of this end of the tube results in the formation of a circumscribed abscess which differs pathologically from abscesses in other mucous membranes only in its effect upon important contiguous tissues. Some cases may be treated by incision and drainage, a few by vaginal section, the majority by the abdominal incision. Hysterectomy should never be performed unless there is some tangible lesion of the uterus.

A case of ruptured pyosalpinx is described by M. Rosenwasser¹⁰ and compared with one, previously reported, of ruptured

tubal pregnancy, in connection with the differential diagnosis of these conditions.

Reconstructive Surgery of the Tubes and Ovaries.—R. T. Morris¹⁰ mentions the following resources in reconstructive surgery of the tubes and ovaries: When an ovary and tube are shelled out of adhesions agglutinated fimbriæ are separated and a probe passed through the lumen of the occluded oviduct. To prevent the re-formation of adhesions permanganate of potash crystals are pressed against oozing points, the adnexa are dried, and aristol rubbed into the tissues where the adhesions had existed. The aristol is soon encapsulated in a lymph coagulum which acts as a mechanical obstacle to the formation of adhesions until smooth connective tissue and endothelium have formed beneath it. When occlusion of the fimbriated end of the tube exists the oviduct may be split on one side, stretched, and sutured to the ovary so that the tubal mucosa covers part of the surface of the ovary. Pregnancy may follow. Morris has obtained one pregnancy, in a case of extensive damage to the ovary and tube, by suturing a graft of ovarian tissue into an incision in the uterus or oviduct so that the graft projects into the lumen of the organ. When the ovary is entirely destroyed a segment of the ovary of another patient may be employed. In one patient, who had never menstruated up to her twentieth year because of rudimentary adnexa, Morris established the function by this means.

Ovary.—A six-pound ovarian fibroid has been removed by J. Homans.¹¹ Recovery followed. E. W. Hedges¹² removed an eighty-pound multilocular ovarian cyst from a patient who weighed after the operation seventy-four pounds. Diarrhea, general sepsis, periuterine abscess, erysipelas, and finally recovery followed. J. H. Etheridge¹³ describes a case of ovarian abscess, and one of ovarian hematoma, to illustrate the justifiability of an exploratory incision for diagnostic purposes. The successful removal of a dermoid of the right ovary, the size of a uterus at term, is reported by H. C. Wyman.¹⁴ A case of ovarian cyst and pelvic abscess, treated with success by incision and abdominal drainage, is described by E. B. Jackson.¹⁵

Carcinoma of the Rectum.—H. T. Byford¹⁶ extirpated a carcinomatous rectum through the vagina, and sutured the bowel above the seat of the growth into the transverse incision in the posterior vaginal wall. The operation was unsuccessful.

Prolapse of the Rectum.—W. J. Chapman¹⁷ reports the performance by I. H. Cameron of ventrofixation of the mesorectum for prolapse of the rectum. Gradual improvement followed.

Fecal Fistula.—A case of fecal fistula due to self-mutilation, occurring twice in the same patient, and treated on each occasion by abdominal section and enterectomy, is reported by F. B. Jessett.¹⁸ Recovery.

Gall-bladder Surgery.—J. F. Binnie¹⁹ reports successful results from cholecystostomy and subsequent cholecystenterostomy for biliary obstruction in a woman 80 years of age.

Tubercular Peritonitis.—Laparotomy, with iodoform-gauze tamponade drainage, is considered by B. Holmes⁴⁴ the safest treatment for tubercular peritonitis. It should be done as soon as there is a show of emaciation or when a relative diagnosis has been made. Puncture of the abdominal wall for diagnosis or for the removal of ascites and injection of air, fluid, or iodoform is dangerous and should not be practised.

Glenard's Disease.—The symptoms and diagnosis of enteroptosis are discussed by J. Gardner.⁴⁵ For its treatment, when following pregnancy, he advises an abdominal binder, lying down two or three hours after the ingestion of food, and opening the bowels.

Abdominal Neoplasms.—Delassus⁴⁶ describes two cases of enlargement of the subclavian lymphatic glands, one of which demonstrates the value of this symptom in the early diagnosis of visceral malignant neoplasms, while the other seems to show a generalized cancerous infection affecting the viscera secondarily. The differential diagnosis from inflammatory, tubercular, and syphilitic enlargements of the glands is considered.

Carcinoma of the Breast.—In discussing the subject of treatment of carcinoma of the breast, W. Burt⁴⁷ recommends that in cases where an inflammatory hyperplasia, fibroma of adolescence, or a tumor due to dilatation of the ducts is suspected, the application of iodide of lead and mercurial ointment should be tried four times a day for a few weeks. This method is said to disperse these tumors. Hypodermatic puncture may be used in the diagnosis of a cystic tumor, and an exploratory incision and frozen microscopic sections in that of solid growths. Burt strongly censures laxity of diagnosis and the performance of wide operations for benign tumors. Various so-called complete operations are described. The technique of the operation for carcinoma of the breast is described by C. Beck.⁴⁸ Of thirty-two cases not previously reported, recurrence has taken place in only two. J. C. Warren⁴⁹ gives a description of the operation performed by him for cancer of the breast, and reports seventeen cases. The anatomy of the breast and adjoining region is carefully considered. A. T. Cabot⁵⁰ reports eighty-two operations for cancer of the breast. Of forty-nine cases heard from, thirteen passed the three-year limit without recurrence. That this length of time is too short to prove the ultimate success of the operation is shown by the death of five cases, at later dates, from the disease.

The Best Method of Suture after Laparotomy (International Congress in Geneva, September 4th, 1896).—*La Torre*: A good abdominal scar depends upon three main factors: the location of the incision, the suture material, and the method of suturing. *Bantock*: Bacteria take no part in the production of pus. They are the result, and not the cause, of the condition. Suppuration of the abdominal wound or the suture tract does not originate from the introduction of germs or adult bacilli into the wound, but is the sequence of necrosed tissue in the wound and excessive tension of the sutures. The

ordinary interrupted suture suffices in most cases, but in very fat subjects it is advised to close the peritoneal cavity with continuous sutures, while the rest of the wound is united by two layers of interrupted sutures. Silk is the best material for interrupted sutures, while for the continuous, catgut (not chromic acid gut) is preferred. *Byford*: Avoidance of wound infection and injury to the tissues during the operation is of prime importance. A median incision is advised. First unite the peritoneum, next fascia and muscles, and finally the skin. Use interrupted sutures of silkworm gut. *Edebohl*s: The resistance of the abdominal scar depends upon a broad surface of contact. Divide the fibrous covering of the recti, and in the subsequent closure of the wound the peritoneum is first united, next the two recti muscles are sutured together, and the suturing of the fascia and skin completes the operation. Use chromic acid catgut for all but skin sutures. *Wylie*: Hernia in the linea alba is frequently the result of abscesses, often caused by an excessive tension of the sutures. An exact suturing of the fascia is necessary; this should never be done by continuous sutures, which would carry infection throughout the whole wound. *Pozzi* and *Engström* also lay great stress upon an accurate union of the same anatomical structures. *Coelho* considers deep silk sutures the best method, while *Latzko* demonstrates a series of microscopical sections of the abdominal scar which show that deep sutures unite many structures not anatomically related to each other, while a careful suturing of fascia to fascia and muscles to muscles, etc., hardly leaves a distinguishable scar.

The Operative Treatment of Large Vesico-vaginal and Recto-vaginal Fistulæ.—In large fistulæ complicated by atresia of the cervix uteri W. A. Freund¹ advises opening the posterior vaginal fornix, drawing the fundus uteri into the vagina, and making an opening into the fundus, to sew this organ into the existing defect. The indication for this operation is restricted to otherwise incurable cases complicated by non-curable atresia of the uterus, and to cases of marked prolapse in old women past the menopause. At a recent medical meeting in Frankfort the author demonstrated three successful cases.

Gonorrhoeic Cystitis.—*Wertheim*.² The question whether a true gonorrheal cystitis ever exists has been much discussed. Barlow and Kragier have answered this in the affirmative, while Guyon, Bumm, Fenger, and Sânger deny it. The investigations of *Wertheim*, however, have shown conclusively that gonococci may and do invade the bladder and then cause a gonorrheal cystitis. He obtained a piece of bladder mucous membrane which contained numerous gonococci. They were found in part between the cells, in part in the capillary and precapillary veins. The latter condition, termed by *Wertheim* gonorrheal thrombo-phlebitis, is considered by him of prime importance. The occurrences of gonorrheal metastases and

gonorrheal endocarditis are now explained : they are the direct result of a gonococci invasion by the way of the circulation.

The Gonococcus in the Diagnosis and Treatment of Gonorrhea in the Female.—Neisser.²⁰ The cervical canal, the urethra with the surrounding crypts and folds, the ducts of Bartholin, as well as the secretions of the glands, should be subjected to a careful examination in every suspicious case ; it is also advisable to give more attention to the examination of the rectum. Gonococci are rarely found in the vulva and vagina of elderly women, or in young women after frequent coition. In children vulvo-vaginitis gonorrhoeica is not rare, but generally the result of an indirect infection. Changes of the vulvar or urethral mucous membrane characteristic of gonococci do not exist, and papillomata, condylomata, or erosions only indicate that a more careful examination is necessary. Although the culture methods of Bumm and Wertheim are of great service, for practical purposes the microscopical examination of the suspected discharge is the only useful method, and an experienced microscopist will nearly always be able to distinguish the gonococcus from other species of diplococci. The conclusion that the so-called "insidious gonorrhea" is caused by gonococci of diminished virulence is wholly untenable. Gonococci always retain their virulent character, even in the most chronic cases. An immunity against gonococci does not exist, but the mucous membrane may acquire a certain degree of tolerance. That the finding of gonococci is conclusive evidence of gonorrhea is universally admitted, but the negative result of one examination does not warrant the immediate conclusion that gonococci are absent ; we know they may hide in the deeper epithelial layers and in the crypts and folds of the mucous membrane. In suspicious cases repeated examinations are requisite and the aid of chemical or mechanical irritants may also be required. The examination for gonococci is not only needed for diagnostic purposes, but this method is also the only safe and reliable guide to observe the success of treatment. The fact that in a large proportion of cases gonococci remain, although all subjective and objective symptoms have disappeared, makes it clear that a number of cases, discharged as cured, are still afflicted with gonorrhea and with the potency to communicate the disease. These latter cases are the main source of infection and the starting point for the ascending gonorrhea in the female. The therapeutic principle must therefore be directed not only against the subsidence of subjective discomfort, but against total removal of the gonococci. This may be effected through a direct application to the affected mucous membrane of the various silver salts (argentannin, argonin, argentum nitricum, actol, itrol), as well as hydrargyrum oxycyanatum and ichthyol. The removal of the gonococci before their ascent is the first and most important therapeutic problem.

Impetigo Herpetiformis.—Glaerecke¹⁸ reports one case of this rare disease, first described by Hebra in 1872. The disease

manifests itself by the formation of purulent vesicles, which as a rule appear first around the genitals and spread until the whole body, except the palmar and plantar surfaces, is involved. Even the mucous membranes, especially those of the mouth, can be the seat of the affection, which is always accompanied by an irregular rise of temperature. The disease usually affects pregnant women, and generally disappears, if the patient has not previously succumbed, after the uterus is emptied. The prognosis is very bad; only four of the twenty cases reported have survived, which is a mortality of eighty per cent. And the chances of securing a living child are also slight; they either perish intrauterine or die soon after birth. The therapy is unsatisfactory, and the termination of pregnancy seems to be the best possible treatment.

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DISEASES OF CHILDREN.

Alcoholism.—M. Lancereaux¹ writes to emphasize the evil results of habitually administering wine to young children. M. E. Vallin² speaks of the dangers of alcoholism conveyed through the milk of intemperate wet-nurses. A. Baratier³ speaks of the evil results of giving wine to young children.

Babies' Hospital of the City of New York.—A full description of this institution and the methods pursued there is given by Martha Wollstein.⁴

Blennorrhagic Arthritis in Children.—A. B. Marfan⁵ considers this affection to be less rare than is usually supposed, and reports two cases. The diagnosis of gonorrheal rheumatism

may be facilitated by an examination of the eyes and of the vulva in cases of acute or subacute arthritis. A bacteriological examination of the vulva or conjunctival exudate will establish the presence or absence of gonococci. Blennorrhagic arthritis may occur at any age, while acute articular rheumatism is rare under the age of 5 years. Treatment should be both general and local. The salicylate of soda, salophen, and antipyrin relieve the pain and diminish the articular exudate. The vulvo-vaginitis or ophthalmia should receive appropriate treatment. The affected articulations should be wrapped in a thick layer of cotton batting. In cases where internal medication is not well tolerated, the joint, before being enveloped with the cotton, may be anointed with a salicylate ointment. Puncture should be resorted to when there is much exudation. If the fluid return, arthrotomy should be performed, followed by washing out and drainage. During convalescence the joint should be given massage, douches, and sulphur baths. Muscular atrophy may be treated by electricity.

Broncho-pneumonia.—Albarel and Babeau^{*} report a case in an infant in whom the symptoms of the disease closely simulated tuberculous meningitis. That a simple broncho-pneumonia was capable of producing these symptoms may have been because the obstacle to the pulmonary circulation reacted upon the cerebral circulation, or because the toxins of the pneumococcus irritated the meninges, or the pneumococcus itself may have been carried to the brain and have developed there.

Cataleptiform Phenomena in Rachitic Children.—In eight cases (18 months to 3½ years old) Epstein^{*} noticed motor phenomena simulating catalepsy. They were more frequent in the lower than in the upper extremities; the reflexes were diminished, but *not* sensibility. All the children were rachitic; the relation between this fact and the etiology of the symptoms cannot be definitely stated. The children were also backward mentally.

Cerebral Paralysis of Children as a Complication of Influenza.—Loeb^{*} quotes the case of a 9-months-old child; there was improvement. He thinks the lesion was a hemorrhagic encephalitis. The literature is given.

Chorea.—David I. Wolfstein^{*} reports a case which was apparently benefited by thyroid extract.

Croup.—Leon d'Artres¹¹ writes of intubation of the larynx in croup before and since the introduction of serum therapy. G. Variot¹² reports the case of a child, who was apparently dead, who was reanimated by tracheotomy and artificial respiration, and who is on the road to recovery. This proves that one should never despair of success from an operation, even *in extremis*. Tracheotomy in these cases is preferable to intubation, although the latter has been known to accomplish the desired result. G. Variot¹² holds that it is preferable to cure croup without any other intervention than the injection of serum, if that be a possible thing. Intubation, to be sure, is not a bloody operation, but it is attended by certain inconven-

iences : it interferes with deglutition and with the expectoration of muco-pus ; the tube may be coughed up or displaced by vomiting, and it is liable to become obstructed by membranes. If left in place more than forty-eight hours it frequently causes ulcerations from pressure in the cricoid region. Tracheotomy, especially in the country, where assistants cannot be obtained to carefully watch the case, may be immediately followed by accidents or may cause a complicating broncho-pneumonia. Very young children and those who are debilitated by previous illness or by grave diphtheria should be subjected to intubation or operation without delay, but in the case of vigorous children from 4 to 6 years of age with marked dyspnea we may temporize, and the dyspnea will often disappear spontaneously.

Cystitis in Childhood.—Trumpf " says that this disease is rare ; he saw twenty-nine cases between the ages of 5 weeks and 3 years. The mild form lasts from one to two weeks ; the symptoms are local only. The severe form has general symptoms as well and lasts weeks or months ; nephritis and uremia may supervene. The bacterium coli was found in every case, except in one where bacterium lactis aerogenes was found. Treatment consisted in washing the bladder with lysol (one-fourth per cent), salol internally, or naphthalin and benzonaphthol. Finkelstein " reports one case primary and several secondary to a severe, often fatal general disease. In all the bacillus coli communis was found in pure culture in the urine. Most were of the catarrhal purulent form, but two were membranous in character. Germs may enter through the circulation, through the rectal wall, or upward through the urethra.

Deformities of the thorax and spinal column in their relation to chronic obstructions of the upper air passages are considered by M. Chapard."

Development of the Intestines and Glands in Infants.—G. Variot " considers this subject in its relation to the regulation of diet during the first year of life.

Diphtheria.—A. A. Kanthack and J. W. W. Stephens " contribute an exhaustive article upon the escape of the diphtheritic bacilli into the blood and tissues. From the facts in their possession the authors conclude that the diphtheritic bacilli may escape from the original seat of infection in the following ways : (1) by direct transference, as, for instance, when we have cutaneous diphtheritic sores during the course of diphtheria ; (2) along existing passages from the seat of infection ; (3) through the lymphatics ; (4) from primary or secondary seats of infection through the circulation. The authors also conclude from their experiments that (1) the simplest view to take of the process of diphtheritic intoxication is that the bacilli, wherever present, secrete a toxin—which is not an albumose, but a substance at present chemically undefined—which is directly absorbed and which acts directly as a nerve and general tissue poison, and that the albumoses are only secondary products, poisonous no doubt, but not of specific importance ; and that since in fatal cases the bacilli are present

in large numbers in the membrane, and are absent or present only in smaller numbers in the spleen, therefore a less active toxin is obtainable from the latter than from the former; and that when the bacilli are absent from the spleen the toxin has been absorbed into the spleen from the membrane or lungs. The pathology of diphtheria and kindred throat affections is treated by Clement F. Theisen." Herman Biggs" presents the results of some investigations as to the virulence of the diphtheritic bacilli occasionally found in throat secretions in cases presenting the clinical features of a simple acute angina. The article is complete and includes statistical tables of a large number of cases. The author desires to especially emphasize the statement that inflammations of mucous membrane due wholly or in part to the Klebs-Löffler bacillus should be included under the name of diphtheria, without reference to the site or extent or intensity of the inflammatory process or the character of the exudate. Walter J. Freeman" has an article on diphtheria in the naso-pharynx. He presents a number of cases and regards them as sufficient in number and importance to warrant the claim that the naso-pharynx is very frequently the starting place of the disease. W. A. Walker," in discussing the modern treatment of diphtheria in private practice, states that, from the standpoint of a general practitioner, he confidently expects to cure any case of diphtheria in private practice, seen within forty-eight hours of the onset of the disease, by means of antitoxin. The subject of antitoxin and intubation is considered by S. G. Dabney.' The prophylactic use of antitoxin and the direct diagnosis of diphtheria are discussed by W. K. Jaques." C. H. H. Sprouck" reports a series of experiments made with the object of identifying the diphtheria bacillus in doubtful cases of the malady. G. H. Roger' gives a review of the accidents which may be imputed to serum therapy. G. Variot" once more protests against the use of the antidiphtheritic serum as a prophylactic treatment in the healthy.

Elephantiasis of Lower Extremities.—Torday" reports a case in a girl of 6 years, with double scoliosis; the left leg is more involved than the right. Child can walk and climb trees.

Enuresis.—W. F. Martin' reports a case of this disorder in a child past the age of puberty, which was very favorably influenced by distension of the bladder.

Ependymitis, Acute.—Matthias Nicoll, Jr.,' presents a case of this disease, with a complete history. After studying the case and the literature of the subject the author concludes as follows: (1) In ventricular effusion due to extension of the inflammatory process from the basal meninges, there are found at autopsies, even when the disease has lasted for several months, very marked traces of previous meningitis; (2) when inflammation of the choroid plexus, either primary or secondary to an acute meningitis of the base, is the cause of the ventricular effusion, abnormalities of the choroid plexus will, as a rule, be found at the autopsy; (3) in the case presented there was a well-marked lesion of the ependyma, no change in the choroid

plexus, a very slight abnormality in parts of the pia mater; the author believes, therefore, that a diagnosis of primary acute ependymitis was justified.

Epiphysitis, Acute, in Infants.—Nelson G. Richmond " has an article on this subject, which includes some illustrative cases. The author concludes from a study of the literature, from the rapidity of the inflammation extending to and involving the joint, and from the fact that it presents all the symptoms of acute osteomyelitis resulting in early necrosis, that we are justified in maintaining: (1) that there is an acute epiphysitis in infants of a non-tubercular form; (2) that there is a tubercular, also a syphilitic form, both hereditary, in infancy and childhood; (3) that epiphysitis is a rare disease in infants, but is more common in childhood; (4) that both the tubercular and non-tubercular forms are more common in hospital than in private practice; (5) that undoubtedly many cases of arthritis are primary epiphysitis.

Facial Irritation in Tetany and Laryngismus Stridulus.—John Abercrombie " thinks that this physical sign has not received the attention which it deserves. A large experience has convinced the author that the sign is constant in tetany, no matter how slight the case; on the other hand, it may appear in children not suffering from tetany. He has never failed to find it present in a case of laryngismus stridulus. He has met with the sign in rickets, especially when that disease was more or less active.

Fibro-adhesive Phlebitis of the Sinuses of the Dura Mater which caused Hydrocephalus and was consecutive to Gastro-enteritis.—Under this title A. B. Marfan " reports a case of much interest.

Gymnastic Exercises in the Treatment of Scoliosis and Kyphosis.—Madame Nageotte-Wilbouchewitch " describes in detail the various physical exercises found beneficial in these conditions.

Hyperpyrexia, Sudden Death of a Young Child from.—Thomas " reports the case of a 4-months-old child which was cured of eczema. It died in a few hours, the temperature being 42.2° in rectum. At the autopsy a very large thymus and interstitial emphysema were found. There was no infectious disease. The author thinks that a functional disturbance caused the high temperature.

Icterus Neonatorum, The Red Blood Cells in the New-born in Cases of.—Knoepfelmacher " concludes that there is no etiological relation between the red blood cells and icterus neonatorum, because during the first few days of life the blood shows formation of new red cells, but not their destruction; the *number* is independent of the development of icterus, but does vary because the plasma varies in amount during the first week.

Idiocy.—Bourneville and Mettital " report a case due to cerebral atrophy; there was pachymeningitis and a cyst of the dura mater.

Infant Feeding.—W. G. Aitchison " reaches the following conclusions from the analysis of the principal varieties of infant foods: 1. Most of these consist of wheaten flour mixed with malt or extract of malt. The latter is supposed to act on the starch of the flour during the process of cooking, and, by the diastase which it contains, to convert the starch into maltose and glucose. The author shows, however, that in several of these varieties, if prepared according to the directions accompanying each, only a very small conversion of the starch occurs, the process advised by the manufacturers consisting of the addition of milk or water, the mixture then being boiled for from five to ten minutes. Such treatment effectually prevents the starch from undergoing any conversion, or soon brings to an end any that is going on already. If, however, these foods be prepared by adding warm water and be then kept warm for half an hour, the temperature not being allowed to rise much above 150° F., part of the starch undergoes conversion, and we then find dextrin, maltose, and glucose, with or without unchanged starch, depending on the time allowed and on the strength of the ferment. If properly cooked, some of these preparations make fairly good foods. Those containing malt should always be preferred to those which contain extract of malt. 2. Instead of malt some contain the pancreatic ferments. These act both on the starch and on the milk with which the foods are prepared. Such foods must be most valuable in conditions of great debility, inanition or exhaustion in infants and invalids. In an ordinary food for children, however, we do not wish to digest the milk, which is the natural food of the child, and which can be digested well enough. Proteids are generally digested well by infants, and we take advantage of this to feed them on infusions of meat when there is great debility. 3. In some of the foods the starch has been converted previously through the action of the diastase of malt. In these we find no unchanged starch, or at most mere traces of it. Maltose and glucose usually occur in large amounts. Nearly all these are made from flour, and so contain, besides, the vegetable albumens and mineral matters. Such foods are very easily absorbed. 4. Combinations of dextrin and starch are often met with and are highly vaunted as valuable foods for infants. In these, however, the treatment has rarely been carried sufficiently far, and usually only a small part of the starch has undergone conversion even into the easily formed or low dextrins. 5. Many preparations sold as food for infants consist simply of flour or unchanged starchy matter. H. A. Bunker " contributes an article upon the subject of infant feeding.

Insanity following Typhoid Fever.—Samuel S. Adams " presents some interesting cases illustrating the occurrence of temporary insanity after typhoid fever.

Kyphosis, Infantile.—A. Chipault " says that the orthopedic treatment of this disease, as described by Kirrmisson, is addressed (1st) to the muscles, and (2d) to the deformity itself.

Refrigeration by means of douches or packs, friction, electrical stimulation, and physiological gymnastics compose the first; the second consists of attempts to obtain a permanent reduction by means of various kinds of apparatus. When these means do not result in marked improvement, operative treatment, consisting in ligature of the apophyses, is of value, is easy of performance, and is perfectly benign.

Lead Poisoning.—R. Abrahams " reports a case of acute lead poisoning in an infant. The source of the poison was some leaden toys.

Leukemia, Acute, in Childhood.—Müller " reports three cases, all fatal, with one autopsy and all complete blood examinations.

Ligature of the Apophyses.—A. Chipault " describes this operation in detail. He lays emphasis upon the fact that this method of treatment is by no means applicable to every variety of Pott's disease of kyphosis and scoliosis, and states further that it is not a complete treatment in itself, its principal object being to facilitate, not to supplant, immobilization of the spine.

Measles.—Eonnet " reports several cases of a relapse and recurrence of this affection.

Meningococcus Intracellularis, Observations and Experiments with the.—Heubner " reports five cases of cerebro-spinal meningitis in which he found the meningococcus intracellularis, cultivating it from the fluid obtained by lumbar puncture during life. Experiments with the cerebro-spinal fluid and also with pure bouillon cultures, injected into the subarachnoid space of rabbits and guinea-pigs, were all negative in their results. A goat injected with pure bouillon culture beneath the dura mater of the lumbar region died about thirty-six hours afterward, and the post-mortem showed the presence of spinal meningitis, and the organisms were cultivated from exudate, also from liver and kidneys. He finds this coccus less virulent than the pneumococcus, and its cases run a longer course than do those due to the pneumococcus. One of the five children recovered.

Metabolism of Infants.—Bendix " contributes an exhaustive clinical study showing the relation between nitrogen in food and that excreted by the urine and feces, also that resorbed, and the changes in body weight.

Milk.—Pierre Budin " gives a report of the results obtained by the administration of sterilized milk to infants. He believes that in hospitals, dispensaries, and crèches the milk given to the infants should always be sterilized. Paul Cheras " gives directions for the sterilization of milk and discusses the various methods in use. He holds that the advantages obtained by its administration far outweigh any disadvantages resulting therefrom. All methods are good, providing that the milk be heated very soon after milking and the process rapidly completed after the milk has been heated. M. Rodet " gives the results obtained by feeding young growing animals upon raw and boiled milk, noting the absolute increase in weight and that related

to the amount of milk ingested. G. Variot^{*} writes strongly in favor of sterilized milk for infants who cannot be nursed by their mothers. It is better to administer it pure rather than diluted or modified, whenever this can be tolerated by the child, principally for the reason that if we demand too complicated a process the majority of mothers and nurses will certainly fail in carrying out our instructions. If the milk of all wet-nurses were sure to agree with all infants, if every woman who sells her supply of milk were certain to feel a maternal love for the child committed to her care, if the secretion of milk were not subject to constant alterations and fluctuations, if mercenary nurses were apt to be as moral in every respect as is desirable, they would of course offer the best substitute for mother's milk. Nine out of every ten, however, are for one reason or another unsuitable, for which reason sterilized milk will be found to be more reliable. Should it not agree with the infant, or should he be frail, delicate, or prematurely born, recourse may be had to a wet-nurse. Leon Dufour¹¹ describes a method of modifying milk in order to make it as closely as possible resemble human milk. A writer¹² devotes considerable space to a discussion of the relative value and relative composition of human milk and that of various other animals. M. F. Cupp¹³ has an article on the antidyscrasic action of cow's milk. The advantages and disadvantages of the use of sterilized milk for infant feeding are reviewed by H. Johnstone Campbell.¹⁴ The subject receives further attention from Charles Hunter Stewart.¹⁵

Multiple Papillomata of the Larynx.—A case of this kind is reported by Irving M. Snow,¹⁶ the patient being only 13 months of age. Tracheotomy was performed and was followed by improvement. Death, however, occurred fifty days afterward from pharyngeal and tonsillar diphtheria. The author states that there is no evidence to show that papillomata in children undergo malignant degeneration.

Nasal -olypus.—Adolph Rupp¹⁷ reports a case in which the growth occurred in an infant 4 weeks old. No syphilitic history could be obtained, nor were there any signs of syphilis about the infant. Part of the tumor was removed with a cold wire snare, and the remainder by means of a blunt ring curette (Buck's).

Newly-born, Against the Use of Carbolic Acid and Iodoform in the.—Hochsinger¹⁸ cites several fatal and severe cases of carbolic poisoning following the use of carbolic acid or lysol. Iodoform may cause inflammatory lesions of the skin at the point of application, or general toxic symptoms. Erosions about the umbilicus occur most frequently when iodoform is used as a dressing for the stump, and it should never be used. Circumcision should never be dressed with iodoform longer than twenty-four hours, then some boracic ointment should follow.

Obliteration of the Bile Ducts, Congenital.—John Lindsay Steven¹⁹ describes a case in which this condition occurred with marked jaundice, persisting from the time of birth until

death at the age of 4 months from hemorrhage into the stomach and intestines.

Otitis Media.—Adolph Rupp¹ discusses the local treatment of acute catarrhal otitis. M. D. Lederman² presents an article on cerebral disease following middle-ear suppuration.

Pediatrics.—C. Oddo³ discusses the point as to whether pediatrics constitutes a specialty in medicine. Defining specialty as "a limited portion of medical science which may be practised to the exclusion of other parts," he considers the conditions which justify a specialty to be: (1) complicated technique, and delicate manipulation necessitating especial skill and training—such as ophthalmology, laryngology, diseases of the urinary tract, gynecology to a large extent; (2) a symptomatology so varied and special that its diagnosis requires special erudition and daily experience—such as dermatology and nervous diseases; (3) one condition is absolutely essential to any specialty, and that is that it should concern some special organ or system. Pediatrics from this point of view cannot be called a specialty. The same morbid agents act at any age; the process is the same, and so is the pathology; no special technique is necessary in treating children, the symptomatology is no more complicated than in the adult, and, finally, specialists, properly so called, are called into requisition for children as frequently as for adults.

An intelligent general practitioner is usually perfectly competent to take charge of children. A good children's physician is obliged to keep up with medical science as a whole. Yet it must not be supposed that the study of pediatrics should be completely merged into that of general medicine; on the contrary, children's diseases should be studied with great care. Childhood is under the influence of the two functions of growth and development, which are not the same, although they tend to the same point. Growth is simply the increase in volume of organs and tissues, as shown, for instance, in the elongation of a bone; development includes the cycle of changes affecting each organ and tissue to reach the summit of perfection which characterizes adult life—the ossification of bone is a type of development. Both of these functions are exceedingly complex and to be intelligently understood require special study and observation. Hereditary influence also plays such a part in the diseases of childhood as to merit great attention, and the immaturity of infantile organs must also be taken into consideration, as well as the surrounding physical, chemical, or microbial conditions, which vary with the age of the patient. The peculiarities special to the pathology of childhood may be said to consist chiefly in (1) special morbid aptitudes, (2) special morbid localization, (3) special modes of reaction. In the first we find a certain number of acute exanthematous diseases, the greater liability to which is due in part to the absence of acquired immunity and in part to circumstances favorable to contagion, such as schools, play-grounds, etc. The excessive development of the lymphatic organs, such as the tonsils, also

plays a part. Under the second head we can place the rapid and complex development of the brain and the active changes and growth of the osseous system which attract and fix pathogenic agents to these localities. In illustration of the third point we may take the nervous system, which not only has to influence its own development, but that of all other organs and tissues, and is therefore peculiarly sensitive and liable to cause convulsions and sudden elevations of temperature. The action of therapeutic remedies is different in childhood from adult life and deserves special study. Pediatrics seems to occupy an intermediate place between general medicine and a specialty.

Pericarditis, Adhesive.—L. Emmett Holt¹ presents a case in which complete obliteration of the pericardial sac occurred in a child 16 months of age. George Montague Swift and Rowland Godfrey Freeman² give a report of four cases of adherent pericardium in children. The authors state that of the physical signs often found the following are important: (1) marked enlargement of the heart, in many cases accompanied by various murmurs; (2) systolic depression at the site of the apex beat; (3) systolic retraction of the lateral and posterior walls of the thorax; (4) impeded descent of the diaphragm in inspiration; (5) dilatation of the veins of the neck with sudden emptying in diastole; (6) absence of feebleness of apex beat. The results of pathological examinations are included in the study of these cases.

Pertussis.—A. Leon³ cites cases to prove that the period of incubation may last eleven days and that pertussis is transmissible from the very first day of its initial manifestation. Le Goff⁴ writes upon the use of antipyrin in this disease. In eighteen cases thus treated all but one received great relief from its use. It should be given in Vichy water to prevent irritation of the digestive tract. Yorke⁵ reports a case of symmetrical softening of the brain during pertussis. Many cases of cerebral disturbance occur during pertussis, but we know little of the anatomical changes that take place in the brain, owing to the fact that most of the cases (blindness, paralysis, aphasia, etc.) recover. Reports the case of a 7-year-old girl who developed right facial paralysis and died in coma. At the autopsy two areas of softening were found in both hemispheres—one in each frontal and one in each parietal lobe. These showed the usual inflammatory changes, but no organisms. The order of things was undoubtedly this: repeated hyperemia and stasis, transudation through the vessels, and inflammation.

Pneumonia, Lobar.—J. Comby⁶ believes that medication holds a relatively unimportant place in the treatment of this affection in childhood. "Therapeutic hygiene," consisting of abundant ventilation, a moderate temperature, cleanliness, antiseptic rinsing of the mouth, disinfection of expectorated matter, a liquid diet, and careful regulation of the bowels, is in the majority of cases the best treatment. Vesication he considers not only useless but harmful; dry cups, mustard plasters,

local applications of ice, etc., may sometimes be indicated. Liquids should be given to induce urination; castor oil or scammony powder will have to be given a few times during the course of the disease. When dyspnea and bronchial catarrh accompany the disease an emeto-cathartic may be given. To reduce fever cold baths are better than antipyretic medication. Delirium and convulsive symptoms are best treated by chloral, urethane, sulfonal, bromide of potassium, or musk in small doses. Opium is to be avoided. Trional in a little warm milk at night gives excellent results and may be used for three or four consecutive days. If the heart action is weak and collapse is threatened cold baths are to be avoided. Alcohol may be given, caffeine or sparteine injected. Digitalis is useful.

Rachitis.—John Thomson^{*} reports a case of this disorder which was associated with laryngismus, convulsions, facial irritability, head-nodding, and "convulsive laughter." The case ended fatally. Stewart L. McCurdy[†] has an article on rachitic deformities of the lower extremities and reports some cases. An exhaustive article on the nervous symptoms presenting themselves in this disease is written by A. Jacobi.[‡] He states that very young infants and young children suffer from rachitis in many ways. Insomnia is quite frequent. The suspicion of rachitis ought to be aroused when children perspire copiously all over or mainly on the head. They rub their heads on the pillow to such a degree as to become bald on the occiput. Hydrocephalus is not infrequent in rachitis. It results from the sluggishness of the arterial circulation, arising from two causes: (1) the relative large size of the arteries, (2) the feebleness of the muscular contraction all over the body, which is but an insufficient excitant of the immense peripherous circulation. The diagnosis of general hydrocephalus from rachitic hydrocephalus in some cases is rather difficult. The occurrence of laryngismus stridulus is usually connected with, or dependent upon, cranial rachitis, although in a few cases with or without sudden death it is due to other causes. The hyperemia of the bones and meninges, with its tendency to effusion, predisposes to secondary physical and mental disorders. There is a special centre in the frontal lobe which, when irritated, causes bilateral adduction of the vocal cords with complete obstruction, and one nearby which causes interruption of breathing during expiration. In tetany occurring in rachitis there is flexion in the carpal joints. It is credited by many with three symptoms, though all cannot be expected to be present in every case: (1) Erb's symptom, (2) Trousseau's symptom, (3) Chrostek's so-called facial symptom. The last symptom has been missed by some authors on the subject of tetany in a number of cases; on the other hand, it may be present in health and in other nervous disorders. All these symptoms, isolated or combined, may be relieved and cured by antirachitic treatment. Spasmus nutans, or salaam spasm, which may be complicated with nystagmus, strabismus, petit-mal, or convulsions, has often been thought to be due to rachitis, though

this has just as often been denied. In the author's experience the vast majority of the cases were rachitical.

Roentgen Rays.—Ch. Remy" speaks of the practicability of applying these rays to the diagnosis of surgical diseases in childhood. He considers them of value in many cases. The greatest obstacle to their use is the extreme difficulty of keeping a child immovable for the time necessary to a successful result.

Scarlatina.—E. Apert" describes the case of a boy of 11 years suffering from scarlatina, whose pulse became markedly slowed on the eighteenth day of the disease, and whose left pupil became at the same time enormously dilated. This condition lasted for several days, and was present when the child was discharged cured. The author believes that it was due to the localization of infective matter in the cilio- and cardio-spinal centres, in a manner analogous to the localization of infection in the motor centres which cause infantile paralyses. Charcot himself, in speaking of a case, says: "Is it not a possible thing that the phenomena of a permanent slow pulse may, under certain circumstances, follow irritative lesions of the cervical spinal cord, even independently of all external traumatism?" Augustus Caillé" has a very complete article on prevention and disinfection in this disease. He believes that the fact that some contagious diseases are infective during the pre-eruptive stage is no argument against the necessity of taking active preventive measures for the three or four weeks following, during which time the infection still continues. At least three weeks should elapse from date of exposure before freedom from danger of the attack is secured. The hygienic and general management of this disease is treated by George N. Acker." The treatment of the nose, ear, and throat in scarlet fever is discussed by Henry Jackson." The mild cases are treated with non-irritating antiseptic washes. The nose should be cleansed out with pledgets of cotton moistened with a solution of boric acid. If a pseudo-membranous deposit is found a culture should be made and submitted to a bacteriological examination. The membrane in scarlet fever is apt to spread to the naso-pharynx and nose. The throat should be thoroughly irrigated every two hours with a hot saturated solution of boric acid or a solution of liquor sodii chlorinati (1:16), or a twenty-five volume solution of peroxide of hydrogen may be used. The nose should also be kept clean. W. P. Northrup" gives the methods of treatment in the Willard Parker Hospital. The patients are put in bed and kept on a fluid diet. The temperature of the room is maintained at 70° F., and the ventilation is carefully attended to. High temperatures are reduced by means of tub-bathing; more moderate temperatures are lowered by means of the pack or sponging. The complications are treated in the usual way. George N. Acker" reports a case of organic heart disease following scarlet fever. M. H. Roger" reports a case in which the subcutaneous injection of defibrinated blood taken from a

convalescent scarlet fever patient produced a sudden and marked improvement in the condition of a youth suffering from a severe type of the disease.

Scoliosis, the Bicycle for.—Otto G. T. Kiliani "believes that many of the physicians treating scoliosis have given up, to a great extent, the apparatus, in the form of plaster-of-Paris corsets and braces, intended for correcting the abnormal curvature of the spine and keeping the same in this corrected position. The author's personal claim is that all modern treatment of this disorder should culminate in the endeavor to correct the curvature as much as possible, and then, instead of trying simply to keep it in this position, to exercise the muscles in this corrected position, so that they will be able to hold the spine in it, if the altered anatomical conditions will permit. Bicycle exercise constitutes such a perfect combination of active and passive motion by means of an exactly constructed machine that it suggested itself to the author to make use of it as one of the therapeutic agents in the treatment of scoliosis. He makes use of a machine in which the saddle is raised a little more than is customary with women riders, to bring the weight of the body partly on the handle bar. The latter is arranged in a way which allows either half to be raised or lowered to any degree desired. The article is illustrated with photographs of patients on the bicycle, showing the spine to be almost straight, the angular deformity of the ribs straightened out considerably, and the position as nearly as possible the ideal one. It seems evident that muscular action in this corrected position ought to be beneficial.

Scorbutus.—In an article on infantile scurvy H. M. McClanahan "states that the disease is never seen in the infant nursed at its mother's breast, and probably never in the infant fed on fresh cow's milk. In cases reported by Cheadle the greater number of the patients were fed on farinaceous foods, some on desiccated patent foods, a number on condensed milk, and several on pancreatized milk. A few cases are reported in which the infant had received a small amount of breast milk, but usually it had been weaned, and the diet in most of the cases was some patent food or condensed milk. An interesting question is: Can sterilized or pasteurized milk cause this disease? Upon this subject there is a difference of opinion. As there are many cases of rickets presenting no evidence of scurvy, and, in this country at least, many cases of scurvy presenting no signs of rickets, it is clearly a misnomer to call the disease scurvy-rickets. Both are diseases of nutrition. An infant fed on food lacking in fats and proteids will very likely develop rickets. If the food lacks freshness as well scurvy may manifest itself. On the other hand, a food abundant in fats and proteids will not cause rickets, but may, from lack of freshness, cause scurvy with absolutely no evidence of rickets. The two diseases are, therefore, often associated because of food defects, but they do not bear to each other the relation of cause and effect. Stewart L. McCurdy" gives a report of three cases.

Spasm of the Glottis and Craniotabes, Relation between.

—Lange^{*} reports that of 727 cases of rickets 86 had craniotabes and only 25 spasm of the glottis; craniotabes and no convulsions, 68 out of 86; craniotabes and spasm of glottis, 14; no craniotabes and spasm of the glottis, 11. Tetany in only 1 case. There seems to be only slight relationship between craniotabes and glottis spasm.

Spasm of the Glottis.—Loos^{*} says that during the last five years he saw 164 cases, mostly under 2 years old. Many were rachitic, and, with few exceptions, symptoms of tetany were present as well. He does not think rickets is an etiological factor, but that spasm of the glottis, in the absence of contractions, is *the* symptom showing the presence of tetany, and is also its most dangerous symptom. Fourteen deaths occurred.

Spinal Curvature.—Elliott G. Brackett^{''} discusses the principles of treatment of lateral curvature. George W. Fitz^{''} speaks of the importance of accurate measurements for showing the progress of the disease and the effect of the treatment.

Pylorus in Infancy, Congenital Stenosis of the.—Finkelstein^{''} has collected ten cases from literature, and added one of his own with autopsy.

Summer Diarrheas.—Solomon Solis-Cohen^{''} advocates the use of benzo-naphthol with bismuth salicylate in these cases. He uses these remedies in conjunction with rest, fresh air, cool bathing or sponging, cleansing of the alimentary tract, intermission of food liable to decomposition or fermentation, the administration of cool water and barley water in small quantities, and the use of sedatives, if necessary. F. R. England^{''} in discussing this subject, says that where, in spite of every precaution, milk will not agree, fresh meats, broths (chicken, mutton, or beef) may be given and all milk withheld. Children a year old or more may have gruels of arrowroot, barley, or rice, but commercial infant foods and preparations of meat must be omitted. David James Evans^{''} in an article on the mechanical treatment of this disorder, states that stomach washing, a purgative dose of castor oil or calomel in acute cases, followed by intestinal irrigation to prevent absorption of ptomaines from the large bowel, combined with proper food and intestinal antiseptics, promise the best results in the treatment of all forms of diarrhea in children.

Syphilis.—Philip F. Barbour^{''} gives a general review of this disease as found in the young.

Talipes.—E. Forgue^{''} treats of the surgical measures to be adopted for this condition. He urges early treatment and describes very fully the various procedures in use. J. C. Schapps^{''} has an article treating of the mechanics of this deformity. P. Redard^{''} treats of instrumental tarsoclasia in certain forms of talipes. E. Kirmisson^{''} gives the pathological anatomy of congenital talipes varus equinus, and reports a number of cases and the treatment adopted. Phelps^{''} operation he considers the best operation in obstinate cases.

Tetany in Childhood.—Constantin Oddo^{''} has written an

article which for length and research might be dignified by the name of book, and to which it is impossible to do justice in an abstract. After a historical introduction he describes the symptoms of the prodromal stage, the muscular rigidity, the condition of the tetanized muscles and the corresponding nerves, the laryngospasm, convulsions, sensory disturbances, vasomotor and trophic disorders, and general phenomena. The course, duration, and prognosis are considered fully, and the diagnosis of the various clinical varieties. As to the pathological anatomy, he gives the results obtained by various investigators, and concludes that the most characteristic lesions are those found in the cells of the anterior cornua, which begin with hyperemia and cloudy swelling and lead to atrophy with sclerosis. In the etiology we find that among the conditions inherent in the subject we have *age*, the second year of life being the one in which the disease is most frequent; *sex*, opinions being divided as to its influence, some considering girls more liable than boys; *race*, the Saxon and Slavic being more subject to it than the Latin races; *heredity*, a congenital irritability of the nervous system having a marked influence and often being joined to constitutional debility; *condition of the patient*, a debilitated condition usually preceding the attack; *digestive troubles*, which have a marked influence in the production of tetany; *intestinal worms* may act by favoring the absorption of microbes or their toxins; *dentition*, by its action upon the nervous system, may aid in the production of tetany; *irritability of the nervous system*, *infectious diseases*, especially those which act upon the gastro-intestinal tube. External influences favoring tetany are: *season*, the disease not usually occurring in the summer; *cold*, which acts by favoring the causes which produce tetany, and not by direct influence; and *defective hygienic conditions*. The author also discusses the various theories held in regard to the nature and pathogenesis of tetany, which may be briefly enumerated as the theory of an origin in rheumatism, of nervous origin (cerebral, medullary, hysterical), rachitic, gastro-intestinal (dehydration of the tissues, reflex, auto-intoxication). The author evidently inclines to belief in the theory of a toxic gastro-intestinal origin, which he considers to be borne out by the mode of evolution of the disease, the fever, eruptions, etc., and the presence in the urine of indican and acetone. A detailed description of treatment is given, the rational method being the following: *In the interval of attacks*, suitable diet, avoidance of cold, excitement, etc.; laxatives every ten days; intestinal antisepsis, consisting of benzo-naphthol in small doses; tepid baths of ten minutes' duration three times a day; bromide of strontium, with or without belladonna; enemata with one grain of chloral a day, and more if the attacks are severe and frequent. *During attack*, if moderately severe, see that all clothing is loose, that the body is warm, that contractured limbs are not irritated by pressure or friction; keep the child in bed, not in the arms, on his back, the back slightly elevated upon a cushion which is not

too soft; avoid irritating the body and causing reflex action. If the attack is violent put the child in a tepid bath and keep it there at same temperature until the muscles relax. If there is laryngospasm apply a sponge dipped in warm water to the front of the neck, the inhalation of chloroform, and, if necessary, tracheotomy; in generalized convulsions, chloroform inhalations and enemata of chloral.

Thigh Friction in Infants.—Charles W. Townsend¹ presents some cases and remarks showing the contraction of vicious habits from this cause even in infants under 1 year of age.

Thymus Gland, Pathology of the.—Siegel² reviews the history and reports a case of hyperplasia of the thymus, which is the first of apnea due to large thymus cured by operation. The thymus was stitched to the fascia over the sternum.

The name *asthma thymicum* should be changed to *tracheo- or bronchostenosis thymica*.

Thymus Function and Thymus Diseases.—Biedert³ writes that the diseases include hemorrhage, thymitis, abscess, hypertrophy, tubercle, carcinoma, and sarcoma. Very interesting.

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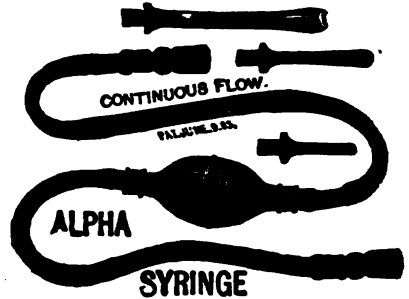
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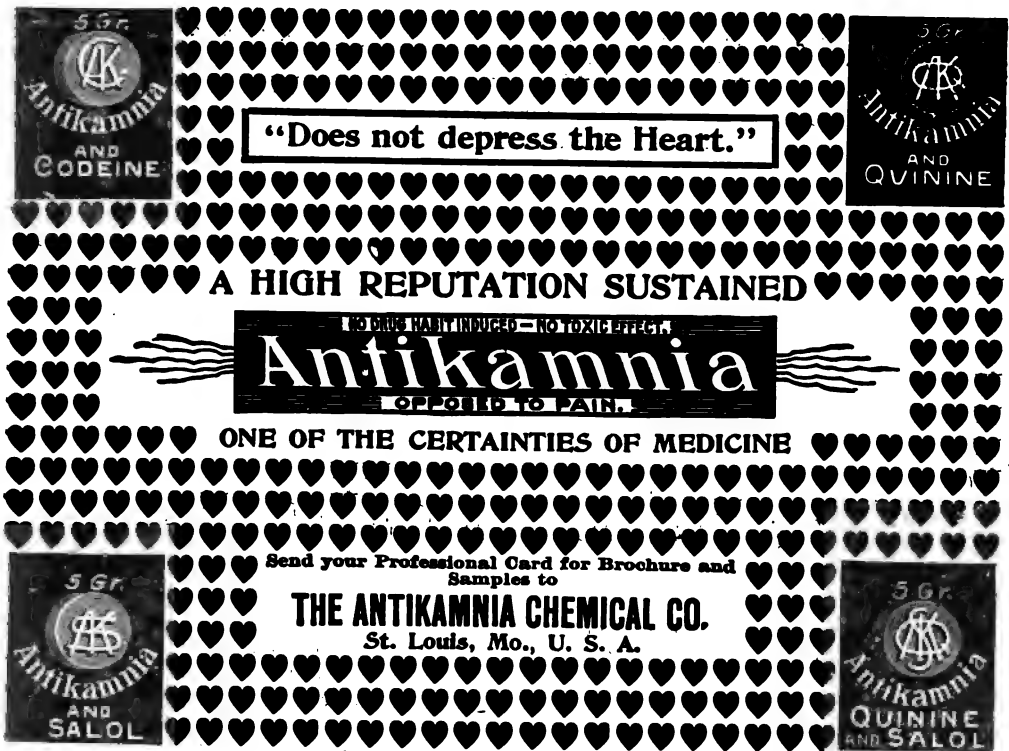
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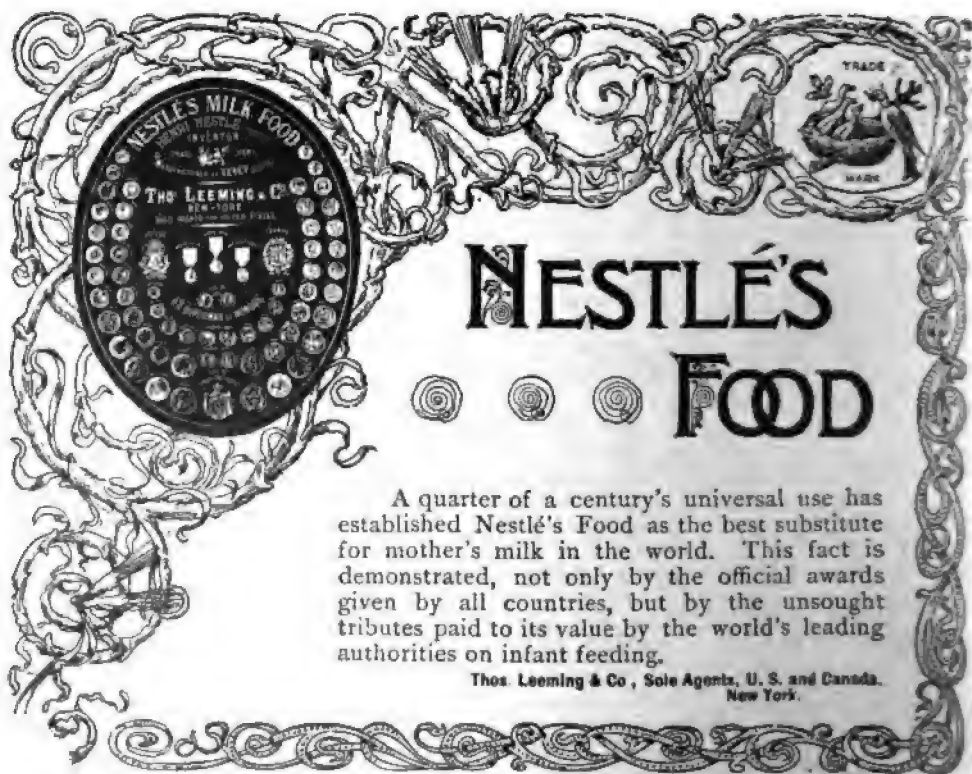
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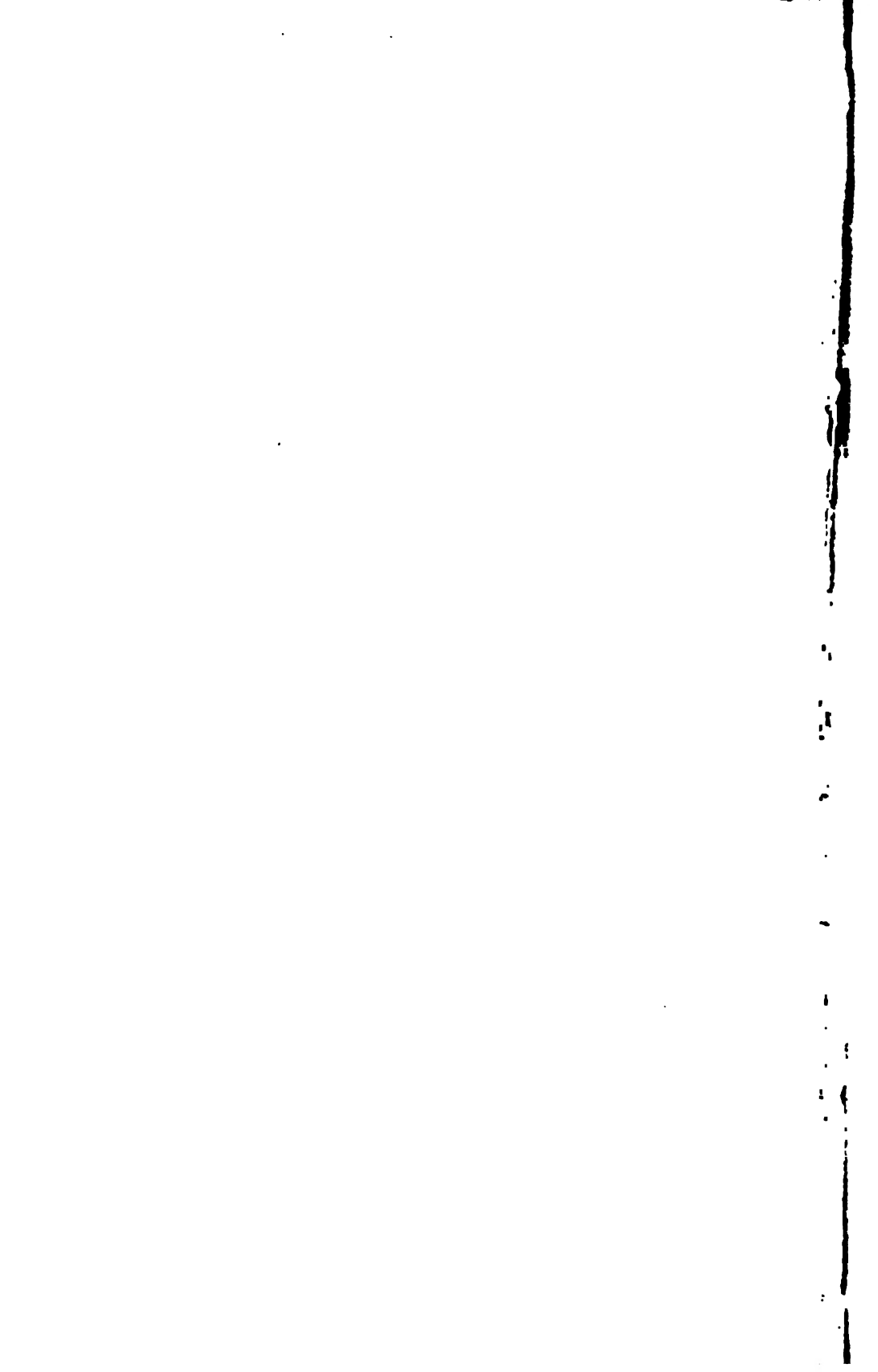
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